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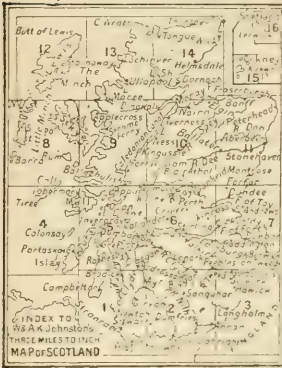
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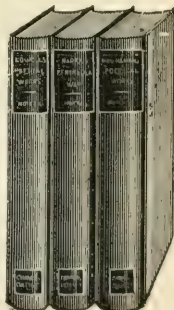
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<sup>1</sup> A full list of the chief Benefactors, with the purposes of their benefactions is given at pages 830-842.

*the proceedings of the University Court from 1st May 1899 to 1st May 1900; and a list of the University Societies.*

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# Contents.

	PAGE
THE CALENDAR . . . . .	xiii-xxvii
CALENDAR FOR 1901-1902 . . . . .	xxviii
NAMES AND ADDRESSES OF THE PRINCIPAL AND PROFESSORS . . . . .	xxix
NAMES AND ADDRESSES OF PROFESSORS EMERITI AND RE-SIGNED . . . . .	xxx
NAMES AND ADDRESSES OF LECTURERS . . . . .	xxxi
UNIVERSITY OFFICERS . . . . .	1-9
THE UNIVERSITY—	
Constitution . . . . .	10
Chancellor . . . . .	10
Vice-Chancellor . . . . .	11
Rector . . . . .	11
Representative in Parliament . . . . .	12
University Court . . . . .	12
University Committee of Privy Council . . . . .	15
Curators of Patronage . . . . .	15
Representative in General Medical Council . . . . .	16
Principal . . . . .	16
Senatus Academicus . . . . .	17
Faculties . . . . .	18
Faculty of Arts . . . . .	18
Faculty of Science . . . . .	20
Faculty of Divinity . . . . .	21
Faculty of Law . . . . .	22
Faculty of Medicine . . . . .	23
Faculty of Music . . . . .	24
General Council of the University . . . . .	25
Students' Representative Council . . . . .	26
Matriculation . . . . .	27
<i>Sponsio Academica</i> . . . . .	28
Number of Matriculated Students 1899-1900 (1st May to 1st May) . . . . .	29
Non-Matriculated Extra-Academical Students . . . . .	29
University Entrance Fee for Non-Matriculated Students . . . . .	29
Discipline . . . . .	30
University Examiners for Degrees . . . . .	30
Graduation Ceremonials; Precedence . . . . .	30
Academic Costume . . . . .	30
REGULATIONS REGARDING—	
(1) Absence of Professors . . . . .	31
(2) Absence of Examiners . . . . .	32
(3) Applications for Examinerships . . . . .	32
(4) Opening of New Classes . . . . .	33
(5) Recognition of Extra-Academical Teachers . . . . .	33

	PAGE
UNIVERSITY BUILDINGS . . . . .	34
(1) University (Old) Buildings . . . . .	35
Dome . . . . .	37
(2) University New Buildings . . . . .	37
M'Ewan Hall . . . . .	39
(3) Reid School of Music . . . . .	40
UNIVERSITY LIBRARY . . . . .	40
Library Committee . . . . .	40
Regulations relative to General Management of the Library . . . . .	42-49
Reading Rooms . . . . .	49
Donations and Bequests in 1899-1900 . . . . .	842
THEOLOGICAL LIBRARY . . . . .	50
SELLAR AND GOODHART CLASSICAL LIBRARY . . . . .	51
HONOURS PHILOSOPHICAL LIBRARY . . . . .	51
HISTORY LIBRARY . . . . .	52
PHYSIOLOGY LIBRARY . . . . .	52
MUSIC LIBRARY . . . . .	52
PORTRAITS AND BUSTS . . . . .	53
TORRIE FINE ART COLLECTION . . . . .	54
MUSEUMS . . . . .	55
ROYAL BOTANIC GARDEN . . . . .	57

## I. FACULTY OF ARTS.

PROGRAMME OF CLASSES, LABORATORIES, FEES, &C. . . . .	58-65
COURSES OF LECTURES . . . . .	65
CLASS PRIZE LISTS, 1899-1900 . . . . .	443
ADVICE TO STUDENTS . . . . .	104
REGULATIONS FOR GRADUATION— . . . . .	105
Preliminary Examinations . . . . .	105
Ordinary Degree . . . . .	108
Degree with Honours . . . . .	109
Boards of Studies . . . . .	112
Regulations regarding the Instruction and Examination of Women . . . . .	114
Regulations for Special Study and Research, and for Research Fellows . . . . .	115
Regulations for Higher Degrees in Arts and Science (D.Sc., D.Phil., and D.Litt.) . . . . .	117
Joint Board of Examiners for Preliminary Examination . . . . .	433
Fee, and dates of entering for Preliminary Examinations . . . . .	121
Time-Table for Preliminary Examinations . . . . .	122-124
Fees and dates of entering for Examinations for M.A., &c. . . . .	124
Time-Table of Examinations for M.A. . . . .	126-128
Outline of Examinations for Ordinary Degree for 1900- 1901 . . . . .	128



	PAGE
Outline of Examinations for Degree with Honours for 1901 and 1902 . . . . .	136
REGULATIONS FOR SCHOOLMASTER'S DIPLOMA . . . . .	146
DIPLOMA CONFERRED, 1899-1900 . . . . .	156
RESULT OF COMPETITIVE EXAM. FOR BURSARIES—HONOURS LIST, October 1899 . . . . .	149
EXAMINATION PAPERS FOR DEGREES IN 1899-1900 . . . . .	
Preliminary Examin. Papers for Degrees in Arts, Science, Law (B.L.), and Music . . . . .	497
Exam. Papers for First Year Bursaries . . . . .	561
Examination Papers for Ordinary Degree of M.A. . . . .	587
Do. for Schoolmaster's Diploma . . . . .	623
Do. for Degree of M.A. with Honours . . . . .	645
HIGHER DEGREES IN ARTS CONFERRED . . . . .	151
SPONSIO ACADEMICA . . . . .	152
GRADUATES IN ARTS—HONOUR LISTS, 1889-1900 . . . . .	152
GRADUATES IN ARTS, 1899-1900 . . . . .	155
BURSARIES, LIST OF . . . . .	157
PRIZES . . . . .	171
SCHOLARSHIPS . . . . .	173
FELLOWSHIPS, &c. . . . .	185
DICKSON TRAVELLING FUND . . . . .	187
MORAY ENDOWMENT FOR RESEARCH . . . . .	187
FELLOWSHIPS, SCHOLARSHIPS, PRIZES, BURSARIES, &c., OPEN IN 1900-1901 . . . . .	188
FUNDS FOR SPECIAL STUDY AND RESEARCH . . . . .	191

## II. FACULTY OF SCIENCE.

PROGRAMME OF CLASSES, &c. . . . .	202
LABORATORIES, &c. . . . .	207
COURSES OF LECTURES . . . . .	209
CLASS PRIZE LISTS . . . . .	457
REGULATIONS FOR GRADUATION—	
PURE SCIENCE . . . . .	230, 232
Preliminary Examination . . . . .	230
Regulations for B.Sc. . . . .	234
Regulations for D.Sc. . . . .	236
Regulations for Special Study and Research, and for Research Fellows . . . . .	238
Regulations for Graduation of Women . . . . .	238
Outline of Subjects of Examinations in Pure Science . . . . .	239
ENGINEERING . . . . .	244
Regulations for B.Sc. . . . .	245
Outline of Subjects of Examination for B.Sc. . . . .	248
Regulations for D.Sc. . . . .	248

	PAGE
PUBLIC HEALTH . . . . .	250
Regulations for B.Sc. . . . .	250
Schedules of the Subjects of Examination for B.Sc. . . . .	252
Regulations for D.Sc. . . . .	254
AGRICULTURE . . . . .	255
Regulations for Graduation . . . . .	256
Outline of Subjects of Examination . . . . .	259
FEES FOR GRADUATION . . . . .	263
TIME-TABLE OF EXAMINATIONS . . . . .	264
EXAMINATION PAPERS IN PURE SCIENCE, &C. . . . .	753
LIST OF D.Sc. . . . .	267
GRADUATES IN SCIENCE, 1899-1900 . . . . .	268
FELLOWSHIPS, SCHOLARSHIPS, &C. . . . .	269
DICKSON TRAVELLING FUND . . . . .	276
MORAY ENDOWMENT FOR RESEARCH . . . . .	276
FELLOWSHIPS, SCHOLARSHIPS, &C., OPEN IN 1900-1901 . . . . .	276
III. FACULTY OF DIVINITY.	
PROGRAMME OF CLASSES, &C. . . . .	279
CURRICULUM FOR MINISTRY IN THE CHURCH OF SCOTLAND . . . . .	280
COURSES OF LECTURES . . . . .	281
CLASS PRIZE LISTS, 1899-1900 . . . . .	461
REGULATIONS FOR GRADUATION . . . . .	286
OUTLINE OF SUBJECTS OF EXAMINATION, 1900-1901 . . . . .	287
FEES FOR EXAMINATIONS . . . . .	288
TIME-TABLE OF EXAMINATIONS . . . . .	289
EXAMINATION PAPERS FOR DEGREE OF B.D. . . . .	461
GRADUATES IN DIVINITY (B.D.), 1899-1900 . . . . .	290
HONORARY DEGREE OF DOCTOR OF DIVINITY . . . . .	290
BURSARIES, PRIZES, SCHOLARSHIPS, &C. . . . .	291
DICKSON TRAVELLING FUND . . . . .	187
MORAY ENDOWMENT FOR RESEARCH . . . . .	187
BURSARIES, PRIZES, SCHOLARSHIPS, &C., OPEN IN 1900-1901 . . . . .	301
IV. FACULTY OF LAW.	
PROGRAMME OF CLASSES . . . . .	305
COURSES OF LECTURES . . . . .	306
CLASS PRIZE LISTS, 1899-1900 . . . . .	462
REGULATIONS FOR GRADUATION— . . . . .	312
Degree of Bachelor of Laws (LL.B.) . . . . .	312
Degree of Bachelor of Law (B.L.) . . . . .	313
Preliminary Examination for B.L. . . . .	315
Examinations for LL.B. and B.L. . . . .	315
Fees for LL.B. and B.L. . . . .	316
Time-Table of Examinations . . . . .	316
EXAMINATION PAPERS FOR LL.B. AND B.L. . . . .	799
LIST OF LL.B. . . . .	317

	PAGE
LIST OF B.L. . . . .	319
DOCTOR OF LAWS (LL.D.), LIST OF . . . . .	320
BURSARIES . . . . .	323
SCHOLARSHIPS, &c. . . . .	325
DICKSON TRAVELLING FUND . . . . .	327
MORAY ENDOWMENT FOR RESEARCH . . . . .	327
SCHOLARSHIPS, BURSARIES, PRIZES, &c., OPEN IN 1900-1901	328

## V. FACULTY OF MEDICINE.

PROGRAMME OF CLASSES, &c. . . . .	331
LABORATORIES . . . . .	335
REGISTRATION OF STUDENTS . . . . .	373
ORDER OF STUDY RECOMMENDED . . . . .	373
COURSES OF LECTURES . . . . .	338
CLASS PRIZE LISTS, 1899-1900 . . . . .	464
REGULATIONS FOR GRADUATION— . . . . .	357
Preliminary Examination . . . . .	357, 388, 438
Additional Regulations of Joint Board for Preliminary Ex- amination . . . . .	438
Examinations exempting from Preliminary Examination . . . . .	440
Period and Course of Professional Education . . . . .	358, 388
Professional Examinations for M.B. and Ch.B., &c. . . . .	365
Regulations for M.D. . . . .	366
Regulations for Ch.M. . . . .	368
Regulations for the Education and Graduation of Women . . . . .	369
Regulations as to Class Examinations . . . . .	375
Certificates of Attendance on Classes . . . . .	375
Outline of Subjects for First Professional Examination . . . . .	376
Honours at Professional Examinations . . . . .	378
<i>Sponsio Academica</i> in Medicine . . . . .	379
Fees for Examinations . . . . .	379
Time-Table of Preliminary Examination . . . . .	371
Time-Table of Professional Examinations, &c. . . . .	380
Extra-Academical Teachers recognised by the University . . . . .	384
Graduation under Old Regulations . . . . .	388
Time-Table of Examinations, Fees, &c. . . . .	379, 380
Regulations for Special Certificate in Diseases of Tropical Climates . . . . .	391
Regulations for Special Study and Research, and for Re- search Fellows . . . . .	392
Regulations for Degree of D.Sc. . . . .	392
Gold Medallists (M.D.) . . . . .	392
Doctors of Medicine, 1899-1900 . . . . .	393
Graduates (M.B., C.M.) with Honours . . . . .	398
Graduates (M.B., Ch.B.) with Honours . . . . .	400
Graduates (M.B., C.M.), 1899-1900 . . . . .	401
Graduates (M.B., Ch.B.) 1899-1900 . . . . .	402

	PAGE
PRELIMINARY EXAMINATION PAPERS . . .	374
PROFESSIONAL EXAMINATION PAPERS . . .	427
FELLOWSHIPS, &c. . . . .	405
SCHOLARSHIPS . . . . .	407
BURSARIES . . . . .	414
PRIZES . . . . .	418
DICKSON TRAVELLING FUND . . . . .	407
MORAY ENDOWMENT FOR RESEARCH . . . . .	407
FELLOWSHIPS, SCHOLARSHIPS, BURSARIES, AND PRIZES, OPEN IN 1900-1901 . . . . .	422
VI. FACULTY OF MUSIC.	
COURSES OF LECTURES . . . . .	426
HISTORICAL CONCERTS . . . . .	427
CLASS PRIZE LISTS . . . . .	493
REGULATIONS FOR DEGREES IN MUSIC—	
1. Bachelor of Music (Mus. B.) . . . . .	427
2. Doctor of Music (Mus. D.) . . . . .	428
3. Graduates (Mus. B.) . . . . .	431
4. Honorary Doctors of Music (Mus. D.) . . . . .	431
SUBJECTS OF PRELIMINARY EXAMINATION . . . . .	430
TIME-TABLES OF EXAMINATIONS, FEES, &c. . . . .	430, 431
EXAMINATION PAPERS FOR MUS. B. . . . .	827
SCHOLARSHIP . . . . .	431
<hr/>	
NEW FOUNDATION . . . . .	828
BENEFACTORS OF THE UNIVERSITY . . . . .	830-842
BEQUESTS AND DONATIONS in 1899-1900 . . . . .	842
APPEAL FOR FUNDS FOR UNIVERSITY PURPOSES . . . . .	830
ABSTRACT OF ACCOUNTS OF THE UNIVERSITY, 1899-1900 . . . . .	844
UNIVERSITY COURT—Abstract of Proceedings of, 1899-1900 . . . . .	854
MISCELLANEOUS.	
I. EXAMINATION OF CANDIDATES FOR THE ARMY . . . . .	865
II. SYLLABUS OF SUBJECTS OF EXAMINATION FOR STUDENTS OF DIVINITY . . . . .	865
III. EDINBURGH UNIVERSITY UNION . . . . .	866
IV. STATISTICS OF RECTORIAL ELECTIONS . . . . .	866
V. ROYAL MEDICAL SOCIETY . . . . .	867
VI. INTERNATIONAL ACADEMIC COMMITTEE . . . . .	867
VII. FRANCO-SCOTTISH SOCIETY . . . . .	867
VIII. ASSOCIATION FOR THE BETTER ENDOWMENT OF THE UNIVERSITY OF EDINBURGH . . . . .	867
IX. EDINBURGH UNIVERSITY SOCIETIES AND CLUBS . . . . .	868
RESIDENCES AND BOARD—	
1. For Men Students . . . . .	875
2. For Women Students . . . . .	875
INDEX . . . . .	877



# The Calendar.

1900—OCTOBER, 31 DAYS.

1	M	<p><b>ANNUS ACADEMICUS</b> begins.  First day for payment of <b>MATRICULATION</b> fee.  Practical Anatomy begins.  <b>BURSARY EXAM.</b> begins on 27th September.  <b>PREL. EXAM.</b> begins 28th September. See Time-Tables, pages 122, 264, 372.</p>
2	Tu	Public Health Laboratory Course begins.
3	W	
4	Th	<p>Last day for Names of Candidates for Degrees in Arts and Science, and for B.L. Preliminary on M.A. Standard to be given in, Certificates examined, and Fees paid.  Last day for Names of Candidates for First Year Law Bursaries to be given in.</p>
5	Fr	
6	Sa	
7	S	
8	M	
9	Tu	<p>Examinations for M.A., and for B.L. Preliminary on M.A. Standard begin. See Time-Table, page 126.  Last day for Names of Candidates for B.D. to be given in, Certificates examined, and Fees paid.</p>
10	W	
11	Th	<p>Examinations for Degrees in Science begin. See Time-Table, pages 265 and 266.</p>
12	Fr	
13	Sa	<p><i>Meeting of Senatus Academicus</i> at 2 P.M.; Standing Committees to be appointed.</p>
14	S	

1900—OCTOBER—*continued.*

15	M	{ Meeting of University Court at 4 P.M. <b>CLASSES IN FACULTY OF MUSIC OPEN.</b>
		{ <b>CLASSES IN THE FACULTIES OF ARTS, SCIENCE, LAW, AND MEDICINE OPEN.</b> Examinations for B.D. begin. See Time-Table, page 289.
16	Tu	{ Court of Session sits. Library open during Winter Session from 10 to 4: Read- ing Rooms in Old Buildings, from 10 to 4 and also 8 to 10: Saturdays 10 to 1. Reading Room in New Build- ings open from 9 to 5 and 8 to 10: Saturdays 9 to 12 during Winter Session.
17	W	
18	Th	{ Last day for entering Names for Second and Third Year Bursaries in Law.
19	Fr	
20	Sa	
21	S	
22	M	{ Last day for Names of Candidates for Examinations for Degrees in Law to be given in, Certificates examined, and Fees paid.
23	Tu	<b>CLASSES IN FACULTY OF DIVINITY OPEN.</b>
24	W	
25	Th	
26	Fr	<i>Meeting of General Council at 3 o'clock.</i>
27	Sa	
28	S	
29	M	{ Examinations for Degrees in Law begin. See Time- Table, page 317.
30	Tu	
31	W	

1900—NOVEMBER, 30 DAYS.

1	Th	
2	Fr	Examinations for Divinity Bursaries begin.
3	Sa	
4	S	
5	M	
6	Tu	
7	W	
8	Th	
9	Fr	Prince of Wales born 1841.
10	Sa	
11	S	Martinmas.
12	M	<i>Meeting of University Court at 4 P.M.</i>
13	Tu	{ Certificates for Bursaries, &c., granted by Deans. Fellowships, Scholarships, Bursaries, paid by Factor.
14	W	
15	Th	
16	Fr	
17	Sa	
18	S	
19	M	
20	Tu	
21	W	
22	Th	
23	Fr	
24	Sa	<i>Meeting of Senatus Academicus at 2 P.M.</i>
25	S	
26	M	
27	Tu	
28	W	
29	Th	{ Registration of Members of General Council for Register of 1901 ends.
30	Fr	

# 1900—DECEMBER, 31 DAYS.

1	Sa	{ Last day for lodging Theses and for payment of Fees for D.Sc., D.Phil., and D.Litt.
2	S	
3	M	
4	Tu	
5	W	
6	Th	
7	Fr	
8	Sa	
9	S	
10	M	
11	Tu	
12	W	
13	Th	
14	Fr	
15	Sa	{ <i>Meeting of Senatus at 2 P.M. :—</i> (1) Election of Managers for Royal Infirmary. (2) Report to Widows' Fund. (3) Arrangements for Winter and Summer Sessions, 1901-1902.
16	S	
17	M	
18	Tu	<i>Meeting of University Court at 4 P.M.</i>
19	W	
20	Th	{ Classes meet for last time before Christmas Vacation. After this date University Offices open from 10 A.M. to 1 P.M. till 8th January: closed on Christmas, New Year's day, and Saturdays.
21	Fr	
22	Sa	
23	S	<b>CHRISTMAS DAY.</b> { Library, including Reading Rooms at Old Buildings, open from 10 to 1 till 8th January: closed on Satur- days. Reading Room, New Buildings, closed for same period.
24	M	
25	Tu	
26	W	
27	Th	
28	Fr	
29	Sa	
30	S	
31	M	

# 1901—JANUARY, 31 DAYS.

1	Tu	
2	W	
3	Th	
4	Fr	
5	Sa	
6	S	
7	M	
8	Tu	Classes meet after Christmas Vacation.
9	W	
10	Th	
11	Fr	
12	Sa	
13	S	
14	M	{ <i>Meeting of University Court at 4 P.M. Appointment of</i> <i>Examiners.</i>
15	Tu	
16	W	
17	Th	
18	Fr	
19	Sa	
20	S	
21	M	{ <i>Meeting of University Court for hearing Registration</i> <i>Appeals (if any) at 4 P.M.</i>
22	Tu	
23	W	
24	Th	
25	Fr	{ <i>Meeting of Senatus Academicus at 2 P.M. :—</i> <i>(1) Report of D.D. Committee to be presented.</i> <i>(2) Report of LL.D. Committee to be presented.</i> <i>(3) Annual Report on University Library to be given in.</i>
26	Sa	
27	S	
28	M	
29	Tu	
30	W	
31	Th	



# 1901—FEBRUARY, 28 DAYS.

1	Fr	
2	Sa	Candlemas.
3	S	
4	M	
5	Tu	
6	W	
7	Th	
8	Fr	
9	Sa	
10	S	Queen Victoria married, 1840.
11	M	Holiday in Faculty of Arts.
12	Tu	
13	W	
14	Th	
15	Fr	
16	Sa	
17	S	
18	M	<i>Meeting of University Court at 4 P.M.</i>
19	Tu	
20	W	
21	Th	
22	Fr	
23	Sa	<i>Meeting of Senatus Academicus at 2 P.M. :—</i> (1) Report of D.D. Committee to be moved. (2) Report of LL.D. Committee to be moved. (3) Resolution to Elect Member of General Assembly.
24	S	
25	M	
26	Tu	
27	W	
28	Th	

# 1901—MARCH, 31 DAYS.

1	Fr	{ Last day for Names for Preliminary Examinations to be given in and Fees paid.
2	Sa	
3	S	
4	M	{ Last day for Names of Candidates for Degrees in Law to be given in and Fees paid.
5	Tu	{ Last day for Names of Candidates for Degrees in Arts, for Schoolmaster's Diploma, for B.L. Preliminary on M.A. Standard, for First Professional Examination in Medicine, and for Examinations for Degrees in Science to be given in and Fees paid. <i>Regulations as to late entries for Chemistry, Botany, and Zoology, for Degrees in Arts and Science Examinations are the same as in the Faculty of Medicine.</i>
6	W	
7	Th	
8	Fr	
9	Sa	
10	S	Prince of Wales married, 1863.
11	M	{ Last day for Names for Second Professional Examination in Medicine to be given in and Fees paid. Last day for Names for Examinations for Degrees in Music to be given in, Certificates examined, and Fees paid.
12	Tu	<b>CLASSES IN FACULTY OF DIVINITY CLOSE.</b>
13	W	{ Last day for Names for Third Professional Examination in Medicine to be given in and Fees paid.
14	Th	
15	Fr	{ Last day for Names of Candidates for Scholarships in Arts and Science to be intimated. Applications for Grants from Dickson Travelling Fund to be lodged.
16	Sa	<b>CLASSES IN FACULTY OF LAW CLOSE.</b>
17	S	
18	M	{ Examinations for M.A., and for Degrees in Law begin. See Time-Tables, pages 126 and 317. <i>Meeting of University Court at 4 P.M.</i>
19	Tu	{ Last day for Names for Examinations in Divinity to be given in, Certificates examined, and Fees paid.
20	W	{ Names for Final Examination in Medicine (Old Regulations) to be given in and Fees paid.

# 1901—MARCH—*continued.*

21	Th	
22	Fr	<b>CLASSES IN FACULTY OF MEDICINE CLOSE.</b> Certificates for First Professional and Science Degrees Examinations to be examined from 10 to 3.
23	Sa	{ Practical Chemistry Examinations for Degrees in Arts, Science, and Medicine begins. Certificates for Second Professional Examination to be examined from 10 to 1.
24	S	
25	M	{ First Professional Written Examination in Medicine, B.Sc. Examinations, and Science Subjects for M.A. begin. See Time-Tables, pages 127, 265, 381. Examinations for Degrees in Music begin. See Time-Table, page 431.
26	Tu	B.D. Examinations begin. See Time-Table, page 289.
27	W	{ Second Professional Examinations begin. See Time-Tables, pages 381 and 382.
28	Th	{ Certificates for Third Professional Examination (New Regulations) and for Final Examination (Old Regulations) to be examined from 10 to 3. <b>CLASSES IN THE FACULTIES OF ARTS AND SCIENCE CLOSE.</b> Certificates for M.A. Examinations in April to be examined before 4 P.M.
29	Fr	{ Third Professional Examination (New Regulations), and Forensic Medicine and Public Health (Old Regulations). See Time-Tables, pages 382, 389. Examinations for M.A. with Honours begin. See Time-Table, page 127.
30	Sa	{ Preliminary Examinations begin. See Time-Table, pages 123, 264, 372. <i>Meeting of Senatus Academicus at 2 P.M. :—</i> (1) Member of Assembly to be elected. (2) Acceptances of Honorary Degrees.
31	S	

# 1901—APRIL, 30 DAYS.

1	M	
2	Tu	
3	W	
4	Th	
5	Fr	<b>GOOD FRIDAY. HOLIDAY</b>
6	Sa	
7	S	<b>EASTER SUNDAY.</b>
8	M	
9	Tu	
10	W	
11	Th	
12	Fr	
13	Sa	<i>{ Meeting of Senatus in M'Ewan Hall at 9.30 A.M.</i> <b>GRADUATION CEREMONIAL IN DIVINITY, LAW, ARTS, AND SCIENCE, IN M'EWAN HALL, AT 10 A.M.</b> <b>COMMEMORATION SERVICE IN ST GILES'S AT 12.</b> Senatus Offices open from 10 to 1 till 1st May: closed on Saturdays. Library closed.
14	S	
15	M	<i>{ Meeting of University Court at 4 P.M.</i> <b>EDINBURGH HOLIDAY.</b>
16	Tu	Reading Room, New Buildings, open from 10 A.M. to 1 P.M. till 22nd April: closed on Saturday. Class of Operative Surgery opens.
17	W	Names of Candidates for Final Exam. in Medicine (New Regulations) to be given in and Fees paid.
18	Th	Certificates for Final Exam. (New Regulations) to be
19	Fr	examined from 10 to 1.
20	Sa	
21	S	
22	M	<i>{ Inspection of Library. All books to be returned before this date. Library closed for lending till 29th inst.</i>
23	Tu	
24	W	
25	Th	
26	Fr	
27	Sa	
28	S	
29	M	
30	Tu	Last day for lodging Theses for M.D. and for Ch.M.

# 1901—MAY, 31 DAYS.

		<b>SUMMER SESSION OPENS.</b> Practical Anatomy begins. Library and Reading Rooms in Old Buildings open from 10 to 3 during Summer Session: Saturdays 10 to 1. Reading Room in New Buildings open from 9 to 5 and 8 to 10: Saturdays 9 to 12. <i>Meeting of University General Council at 3 P.M.</i>
1	W	
2	Th	
3	Fr	Clinical Medicine Exams. begin.
4	Sa	
5	S	
6	M	
7	Tu	
8	W	
9	Th	
10	Fr	
11	Sa	
12	S	
13	M	<i>Meeting of University Court at 4 P.M.</i>
14	Tu	<b>LAW CLASSES OPEN.</b>
15	W	Whitsunday.
16	Th	
17	Fr	Fellowships, Scholarships, Bursaries paid by Factor.
18	Sa	
19	S	
20	M	
21	Tu	
22	W	
23	Th	General Assembly meets. HOLIDAY.
24	Fr	Queen Victoria born, 1819.
25	Sa	
26	S	
27	M	
28	Tu	
29	W	
30	Th	
31	Fr	<i>Meeting of Senatus Academicus at 3 P.M.</i>



# 1901—JUNE, 30 DAYS.

1	Sa
2	S
3	M
4	Tu
5	W
6	Th

*Insertion, to face page of Calendar with May 1901.*

## CORRECTION.

The General Assembly will meet on Tuesday, 21st May 1901, which will be a HOLIDAY (*not* on Thursday, 23rd May).

22	Sa
23	S
24	M
25	Tu
26	W
27	Th
28	Fr
29	Sa
30	S

Candidates for Clinical Examinations for M.D. and  
for Ch.M.

Midsummer Day.

{ Queen's Coronation, 1838.  
Meeting of Senatus Academicus at 3 P.M.

1901—MAY, 31 DAYS.

		<b>SUMMER SESSION OPENS.</b> Practical Anatomy begins. Library and Reading Rooms in Old Buildings open from 10 to 3 during Summer Session: Saturdays 10 to 1. Reading Room in New Buildings open from 9 to 5 and 8 to 10: Saturdays 9 to 12. <i>Meeting of University General Council at 3 P.M.</i>
1	W	
2	Th	
3	Fr	Clinical Medicine. Exam. basis

23	Th	General Assembly meets. HOLIDAY.
24	Fr	Queen Victoria born, 1819.
25	Sa	
26	S	
27	M	
28	Tu	
29	W	
30	Th	
31	Fr	<i>Meeting of Senatus Academicus at 3 P.M.</i>

# 1901—JUNE, 30 DAYS.

1	Sa	
2	S	
3	M	
4	Tu	
5	W	
6	Th	
7	Fr	
8	Sa	
9	S	
10	M	
11	Tu	
12	W	
13	Th	
14	Fr	
15	Sa	
16	S	
17	M	{ <i>Meeting of University Court at 4 P.M.</i> Final Prof. Written Exam. begins. See Time-Table, pages 382, 389.
18	Tu	
19	W	Clinical Surgery Exam. for M.B. begins.
20	Th	Accession of Queen Victoria, 1837.
21	Fr	{ Last day for Names to be entered and Fees paid for Candidates for Clinical Examinations for M.D. and for Ch.M.
22	Sa	
23	S	
24	M	Midsummer Day.
25	Tu	
26	W	
27	Th	
28	Fr	{ Queen's Coronation, 1838. <i>Meeting of Senatus Academicus at 3 P.M.</i>
29	Sa	
30	S	

# 1901—JULY, 31 DAYS.

1	M	
2	Tu	
3	W	
4	Th	
5	Fr	<p>{ Last day for Names of Candidates for Examinations for Degrees in Arts and Science, and for First Professional Examination in Medicine to be given in and Fees paid. <i>The Regulations of the Faculty of Medicine as to late entry fees applies to all entries for Chemistry, Botany, and Zoology.</i></p> <p>Clinical Medicine Examination for M.D. (New Regulations) begins at 9.45 A.M.</p> <p>Examination for Ch.M. begins.</p>
6	Sa	
7	S	
8	M	
9	Tu	
10	W	
11	Th	
12	Fr	<p>{ Last day for Names of Candidates for Second Professional Examination (New and Old Regulations) to be given in and Fees paid.</p>
13	Sa	
14	S	
15	M	Meeting of University Court at 4 P.M.
16	Tu	
17	W	<p><b>SUMMER SESSION ENDS.</b></p> <p>Certificates for First Professional and Arts and Science Examinations to be examined from 10 to 3.</p> <p>Names of Candidates for Third Professional Examination in Medicine (New Regulations) to be given in and Fees paid.</p> <p>Names to be entered for Graduation, and Registration Fee paid on or before this date.</p>

1901—JULY—*continued.*

18	Th	{ Second Professional Examination Certificates to be examined from 10 to 3. Practical Chemistry Examination for Degrees in Arts, Science, and Medicine begins.
19	Fr	{ Written Examinations for Degrees in Arts (Dept. of Science), for Degrees in Science, and First Professional Examination in Medicine begin. See Time-Tables, pages 128, 265, 381.
20	Sa	
21	S	
22	M	{ Second Professional Examination in Medicine begins. See Time-Tables, pages 381 and 382.
23	Tu	{ Certificates for Third Professional Examination (New Regulations) to be examined from 10 to 3.
24	W	{ Third Professional Examination. See Time-Table, page 382.
25	Th	
26	Fr	{ <i>Meeting of Senatus Academicus at 3 P.M.</i> Candidates for Degrees to be approved.
27	Sa	{ <b>GRADUATION CEREMONIAL IN MEDICINE, SCIENCE, &amp;c., AT 10 a.m.</b> <i>Meeting of Senatus in M'Ewan Hall at 9.30 A.M.</i>
28	S	
29	M	{ University Offices open from 10 to 1 till 1st October: closed on Saturdays.
30	Tu	
31	W	



# 1901—AUGUST, 31 DAYS.

1	Th	<b>LAMMAS.</b> Library and Reading Rooms in Old Buildings open from 10 to 1 till 1st September: closed on Saturdays. Reading Room, New Buildings, closed during same period.
2	Fr	
3	Sa	
4	S	
5	M	
6	Tu	
7	W	
8	Th	
9	Fr	
10	Sa	
11	S	
12	M	
13	Tu	
14	W	
15	Th	
16	Fr	
17	Sa	
18	S	
19	M	
20	Tu	
21	W	
22	Th	
23	Fr	
24	Sa	
25	S	
26	M	
27	Tu	
28	W	
29	Th	
30	Fr	
31	Sa	

# 1901—SEPTEMBER, 30 DAYS.

1	S	{ Library and Reading Rooms in Old Buildings open from 10 to 3: Saturdays 10 to 1. Reading Room, New Buildings, open from 10 to 1: closed on Saturdays.
2	M	
3	Tu	
4	W	
5	Th	
6	Fr	
7	Sa	
8	S	
9	M	
10	Tu	
11	W	
12	Th	
13	Fr	
14	Sa	
15	S	
16	M	<b>EDINBURGH HOLIDAY.</b>
17	Tu	
18	W	{ Last day for Names of Candidates for Preliminary Examinations to be given in and Fees paid. Last day for entering for University Bursaries in the Faculties of Arts, Science, and Medicine.
19	Th	
20	Fr	
21	Sa	
22	S	
23	M	
24	Tu	
25	W	
26	Th	Bursary Examinations may begin.
27	Fr	{ Preliminary Examinations may begin. Time-Tables for the Bursary and Preliminary Examinations will be given in the CALENDAR for 1901-1902 and in the Regulations issued separately.
28	Sa	
29	S	
30	M	

# Calendar for the Academic Year 1901-1902.

## OCTOBER 1901.

S	6	13	20	27
M	7	14	21	28
Tu	1	8	15	22 29
W	2	9	16	23 30
Th	3	10	17	24 31
Fr	4	11	18	25
Sa	5	12	19	26

## NOVEMBER 1901.

S	3	10	17	24
M	4	11	18	25
Tu	5	12	19	26
W	6	13	20	27
Th	7	14	21	28
Fr	1	8	15	22 29
Sa	2	9	16	23 30

## DECEMBER 1901.

S	1	8	15	22 29
M	2	9	16	23 30
Tu	3	10	17	24 31
W	4	11	18	25 <sup>1</sup>
Th	5	12	19	26
Fr	6	13	20	27
Sa	7	14	21	28

## JANUARY 1902.

S	5	12	19	26
M	6	13	20	27
Tu	7	14	21	28
W	1	8	15	22 29
Th	2	9	16	23 30
Fr	3	10	17	24 31
Sa	4	11	18	25

## FEBRUARY 1902.

S	2	9	16	23
M	3	10 <sup>2</sup>	17	24
Tu	4	11	18	25
W	5	12	19	26
Th	6	13	20	27
Fr	7	14	21	28
Sa	1	8	15	22

## MARCH 1902.

S	2	9	16	23 30
M	3	10	17	24 31
Tu	4	11	18	25
W	5	12	19	26
Th	6	13	20	27
Fr	7	14	21	28 <sup>3</sup>
Sa	1	8	15	22 29

## APRIL 1902.

S	6	13	20	27
M	7	14	21 <sup>4</sup>	28
Tu	1	8	15	22 29
W	2	9	16	23 30
Th	3	10	17	24
Fr	4	11	18	25
Sa	5	12	19	26

## MAY 1902.

S	4	11	18	25
M	5	12	19	26
Tu	6	13	20	27
W	7	14	21	28
Th	1	8	15	22 29
Fr	2	9	16	23 30
Sa	3	10	17	24 31

## JUNE 1902.

S	1	8	15	22 29
M	2	9	16	23 30
Tu	3	10	17	24
W	4	11	18	25
Th	5	12	19	26
Fr	6	13	20	27
Sa	7	14	21	28

## JULY 1902.

S	6	13	20	27
M	7	14	21	28
Tu	1	8	15	22 29
W	2	9	16	23 30
Th	3	10	17	24 31
Fr	4	11	18	25
Sa	5	12	19	26

## AUGUST 1902.

S	3	10	17	24 31
M	4	11	18	25
Tu	5	12	19	26
W	6	13	20	27
Th	7	14	21	28
Fr	1	8	15	22 29
Sa	2	9	16	23 30

## SEPTEMBER 1902

S	7	14	21	28
M	1	8	15 <sup>1</sup>	22 29
Tu	2	9	16	23 30
W	3	10	17	24
Th	4	11	18	25
Fr	5	12	19	26
Sa	6	13	20	27

<sup>1</sup> Christmas.

<sup>2</sup> Holiday in Faculty of Arts.  
<sup>4</sup> Edinburgh Holiday.

<sup>3</sup> Good Friday.

ADDRESSES OF THE PRINCIPAL, PROFESSORS,  
EMERITI AND RESIGNED PROFESSORS, AND  
UNIVERSITY LECTURERS

I.—PRINCIPAL AND PROFESSORS.

Principal Sir William Muir, Dean Park House.

Professor Annandale, 34 Charlotte Square.

- „ Armstrong, The University.
- „ Baldwin Brown, 20 Lansdowne Crescent.
- „ Bayley Balfour, Inverleith House.
- „ Crum Brown, 8 Belgrave Crescent.
- „ Butcher, 27 Palmerston Place.
- „ Chiene, 26 Charlotte Square.
- „ Chrystal, 5 Belgrave Crescent.
- „ Copeland, Royal Observatory, Blackford Hill.
- „ Eggeling, Brunstane House, Joppa, Midlothian.
- „ Ewart, Penicuik.
- „ Flint, Johnstone Lodge, Craigmillar Park.
- „ Fraser, 13 Drumsheugh Gardens.
- „ Geikie, Kilmorrie, Colinton Road.
- „ Sir Ludovic Grant, Bart., 4 Belgrave Crescent.
- „ Greenfield, 7 Heriot Row.
- „ Hardie, 4 Chalmers Crescent.
- „ Kennedy, 9 Fountainhall Road.
- „ Kirkpatrick, Southview, Murrayfield.
- „ Laurie, 22 George Square.
- „ Sir Henry D. Littlejohn, 24 Royal Circus
- „ Lodge, 25 Hope Terrace.
- „ Mackinnon, 26 Blacket Place.
- „ Mackintosh, 2 Drummond Place
- „ Mounsey, 24 Glencairn Crescent.
- „ Nicholson, 3 Belford Park.
- „ Niecks, 22 Dick Place.
- „ Patrick, 5 Polwarth Terrace.

Professor A. S. Pringle Pattison, 16 Church Hill.

- „ Rankine, 23 Ainslie Place.
- „ Saintsbury, 2 Eton Terrace.
- „ Schäfer, University New Buildings, Teviot Place.
- „ Seth, 3 Queen's Crescent.
- „ Simpson, 52 Queen Street.
- „ Hunter Stewart, 9 Learmonth Gardens.
- „ Tait, 38 George Square.
- „ Taylor, 6 Greenhill Park.
- „ Sir Wm. Turner, 6 Eton Terrace.
- „ Wallace, 5 Mansfield Place.
- „ Wyllie, 44 Charlotte Square.

## II.—PROFESSORS EMERITI.

Archibald Hamilton Charteris, D.D., formerly Professor of Biblical Criticism and Biblical Antiquities ; Cameron House, Dalkeith Road.

Alexander Campbell Fraser, D.C.L., LL.D., formerly Professor of Logic and Metaphysics ; Gorton, Hawthornden, Midlothian.

Norman Macpherson, LL.D., formerly Professor of Scots Law ; 6 Buckingham Terrace, Edinburgh.

David Masson, LL.D., formerly Professor of Rhetoric and English Literature ; 2 Lockharton Gardens, Edinburgh.

Sir Herbert Stanley Oakeley, D.C.L., LL.D., Mus. D., formerly Professor of Music ; 38 Marine Parade, Dover.

## III.—PROFESSORS RESIGNED.

Theodor Aufrecht, M.A., LL.D., Ph.D., formerly Professor of Sanskrit ; The University, Bonn.

Sir Archibald Geikie, LL.D., formerly Professor of Geology ; Museum of Geology, Jermyn Street, London.

Henry Goudy, LL.D., formerly Professor of Civil Law ; now Professor of Civil Law, University, Oxford.

Right Hon. Lord Lister, LL.D., M.D., formerly Professor of Clinical Surgery ; 12 Park Crescent, Portland Place, London, W.



- Aeneas James George Mackay, LL.D., Sheriff of Fife, Advocate,  
formerly Professor of History ; 7 Albyn Place, Edinburgh.  
George Walter Prothero, Editor of *The Quarterly Review*,  
formerly Professor of History ; 24 Bedford Square, Lon-  
don, W.C.  
John Philp Wood, W.S., formerly Professor of Conveyancing ;  
16 Buckingham Terrace.

IV.—UNIVERSITY LECTURERS.

- Andrew P. Aitken, D.Sc., 57 Great King Street.  
Colonel F. Bailey, R.E., 7 Drummond Place.  
Henry Barker, M.A., 18 Bruntsfield Gardens.  
J. Beard, D.Sc., Ph.D., 93 Comely Bank Avenue.  
George A. Berry, M.B., C.M., 31 Drumsheugh Gardens.  
A. W. Borthwick, B.Sc., Royal Botanic Gardens.  
Thomas S. Clouston, M.D., Tipperlinn House, Morningside  
Place.  
John James Cook, M.A., LL.B., 42 Northumberland Street.  
Andrew Davidson, M.D., 29 Morningside Drive.  
Leonard Dobbin, Ph.D., 7 Cobden Road.  
John Smith Flett, M.A., B.Sc., M.B., C.M., 12 Thirlestane  
Road.  
William Fream, LL.D., B.Sc., The Vinery, Downton, Salis-  
bury.  
Robert P. Hardie, M.A., 4 Chalmers Crescent.  
David Hepburn, M.D., 11 Glenorchy Terrace.  
Professor William James, of Harvard University, Cambridge,  
Massachusetts, U.S.A. (Gifford Lecturer in Natural Theo-  
logy).  
William Allan Jamieson, M.D., 35 Charlotte Square.  
Neil J. D. Kennedy, M.A., 46 Northumberland Street.  
Walter Hume Kerr, M.A., B.Sc., Viewfield, Juniper Green.  
Cargill G. Knott, M.A., D.Sc., 42 Upper Gray Street.  
Peter M'Bride, M.D., C.M., 16 Chester Street.  
Alexander W. Mair, M.A., 34 Gillespie Crescent.  
Hugh Marshall, D.Sc., 131 Warrender Park Road.

James Mill, M.A., 12 Howard Place.

Thomas Hugh Milroy, M.D., 57 Inverleith Row.

Thomas Monck Burn Murdoch, M.B., 14 Charlotte Square.

William Peddie, D.Sc., 14 Ramsay Garden.

Charles Sarolea, Ph.D., D.Litt., l'Ermitage, Colinton, Edinburgh.

Otto Schlapp, Ph.D., Tusculum House, Fisherrow, Musselburgh.

William Cameron Sillar, M.B., B.Sc., 46 George Square.

G. Gregory Smith, M.A., 16 Murrayfield Avenue.

Charles Tweedie, M.A., B.Sc., 15 Dalrymple Crescent.

David Arthur Welsh, M.D., 82 Marchmont Crescent.

# University Officers.

Date of Institution.	Chancellor.	Appointed.
1859.	RIGHT HON. ARTHUR JAMES BALFOUR, M.P., D.C.L., LL.D. ....	1891

## Vice-Chancellor.

1859.	SIR WILLIAM MUIR, K.C.S.I., D.C.L., LL.D., Ph.D. ....	1885
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## Rector.

1859.	THE MOST HON. THE MARQUESS OF DUFFERIN AND AVA, G.C.S.I., D.C.L., LL.D., &c. ....	1899
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## Principal.

1582.	SIR WILLIAM MUIR, K.C.S.I., D.C.L., LL.D., Ph.D. ....	1885
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## Representative in Parliament.

1868.	SIR JOHN BATTY TUKE, M.D., F.R.C.P.E. ....	1900
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## University Court.

**President**—THE RECTOR, *Ex officio*.

THE PRINCIPAL ..... *Ex officio*.

RT. HON. MITCHELL THOMSON, } *Ex officio*.  
Lord Provost of Edinburgh .....

ÆNEAS J. G. MACKAY, LL.D., } Assessor, nominated by Chancellor... 1891  
Advocate.....

DAVID DUNDAS, Q.C. .... Do. nominated by Rector ..... 1900

ANDREW MITCHELL, Advocate... Do. elected by Town Council.. 1897

PATRICK HERON WATSON, } Do. elected by General Council 1887  
M.D., LL.D. .... }

J. HOPE FINLAY, W.S. .... Do. do. do. 1893

A. TAYLOR INNES, M.A., Advocate. Do. do. do. 1893

JOSEPH BELL, M.D. .... Do. do. do. 1895

SIR WILLIAM TURNER, M.B., } Do. elected by Senatus ..... 1889  
D.C.L., LL.D., Professor of Anatomy }

ALEXANDER CRUM BROWN, } Do. do. do. 1889  
M.D., D.Sc., Professor of Chemistry }

SAMUEL HENRY BUTCHER, } Do. do. do. 1891  
LL.D., Litt.D., Professor of Greek... }

SIMON S. LAURIE, LL.D., Professor } Do. do. do. 1898  
of Education..... }

**Secretary**—PROFESSOR TAYLOR, D.D.

**Factor and Law Agent**—HENRY COOK, W.S.

**Auditor**—THOMAS GOLDIE DICKSON, C.A.

**Clerk**—THOMAS GILBERT.

**Assistant Clerk**—JAMES DOWIE.

**Secretary's Clerk**—GEORGE CAMPBELL.

**Curators of Patronage.**

		Appointed.
PRINCIPAL SIR WILLIAM MUIR	Elected by University Court . . .	1887
RIGHT HON. LORD ROBERTSON, } LL.D., Lord of Appeal . . . . . }	Elected by do. . . .	1896
PATRICK HERON WATSON, M.D., } LL.D. . . . . }	Elected by do. . . .	1891
MITCHELL THOMSON, Lord Provost	Elected by Town Council . . .	1898
LT.-COL. ALEX. FORBES MACKAY..	Elected by do. . . .	1898
SIR JAS. ALEXANDER RUSSELL, } LL.D. . . . . }	Elected by do. . . .	1891
GEO. AULDJO JAMIESON, C.A.....	Elected by do. . . .	1892

**Secretary**—R. HERBERT JOHNSTON, W.S., 66 Frederick Street.

**Senatus Academicus.**

**President**—THE PRINCIPAL.

**Secretary**—Professor Sir LUDOVIC GRANT, Bart., B.A.

**FACULTY OF ARTS.**

**Dean**—Professor CHRYSAL, LL.D.

Date of Institution.	Chairs.	Professors.	Appointed.	Patrons.
1760	<b>Rhetoric and English Literature</b>	GEO. SAINTSBURY, M.A., LL.D.	1895	Crown.
1583	<b>Humanity</b> .....	WILLIAM ROSS HARDIE, M.A.	1895	{ Lds. of Ses., Cur., Fac. of Adv., and W.S. Soc. <sup>1</sup>
1583	<b>Greek</b> .....	SAMUEL HENRY BUT- CHER, LL.D., Litt.D.	1882	Curators.
1642	<b>Hebrew and Semitic Languages</b>	ARCH. ROBT. STIRLING KENNEDY, B.D., D.D.	1895	Curators.
1862	<b>Sanskrit and Compa- rative Philology</b> <sup>2</sup>	JULIUS EGGELING, Ph.D.	1875	Crown.
1882	<b>Celtic Languages, Literature, History, and Antiquities</b> <sup>3</sup>	DON. MACKINNON, M.A.	1882	Curators.
1583	<b>Mathematics</b> .....	GEO. CHRYSAL, LL.D...	1879	Curators.
1583	<b>Natural Philosophy</b> ...	PETER GUTHRIE TAIT, M.A., D.Sc.	1860	Curators.
1583	<b>Logic &amp; Metaphysics.</b>	A. S. PRINGLE PATTI- SON, M.A., LL.D.	1891	Curators.
1583	<b>Moral Philosophy</b> .....	JAMES SETH, M.A.....	1898	Curators.
1719	<b>History</b> .....	JOHN KIRKPATRICK, LL.B., LL.D.	1881	Fac. of Adv., & Cur.
1893	<b>History</b> .....	RICHARD LODGE, M.A.	1899	University Court.
1871	<b>Commercial &amp; Political Economy &amp; Mercantile Law</b> <sup>4</sup>	JOSEPH SHIELD NICHOL- SON, M.A., D.Sc.	1880	Cur., & Merch. Co.

<sup>1</sup> The Judges of the Court of Session nominate two Delegates, the Curators two, the Faculty of Advocates one, and the Society of Writers to the Signet one. These Delegates appoint the Professor, who receives his Commission from the Curators.

<sup>2</sup> This Chair was originally endowed by John Muir, LL.D. (Edin.), D.C.L. (Oxon.), of the Bengal Civil Service, and by a Parliamentary vote.

<sup>3</sup> Originally endowed with a sum of £14,000, raised by public subscription.

<sup>4</sup> This Chair was endowed in 1871 by the Merchant Company of Edinburgh, and other Governors of George Watson's and Daniel Stewart's Hospitals.

Date of Institution.	Chairs.	Professors.	Appointed.	Patrons.
1879	<b>Fine Art</b> <sup>1</sup> (Watson Gordon Chair).....	GERARD BROWN, M.A.	1880	Univ. Ct., Pres. R. Scott. Acad.
1876	<b>Theory, History, and Practice of Educa- tion</b> <sup>2</sup>	SIMON LAURIE, LL.D.	1876	Bell Trustees.

FACULTY OF SCIENCE.

Dean—Professor GEIKIE, D.C.L., LL.D.

1583	<b>Mathematics</b> .....	GEORGE M.A., LL.D.	1879	Curators.
1583	<b>Natural Philosophy..</b>	PETER GUTHRIE TAIT, M.A., D.Sc.	1860	Curators.
1786	<b>Astronomy</b> .....	RALPH COPELAND, Ph.D.	1889	Crown.
1713	<b>Chemistry</b> .....	ALEX. CRUM BROWN, M.D., D.Sc.	1869	Curators.
1767	<b>Natural History</b> .....	JAMES COSSAR EWART, M.D.	1882	Curators.
1676	<b>Botany</b> .....	ISAAC BAYLEY BALFOUR, M.D., D.Sc.	1888	Crown.
1705	<b>Anatomy</b> .....	Sir WILLIAM TURNER, M.B., D.C.L., LL.D.	1867	Curators.
1685	<b>Physiology</b> .....	EDW. ALBERT SCHÄFER, F.R.S.	1899	Curators.
1871	<b>Geology</b> <sup>3</sup> .....	JAMES GEIKIE, D.C.L., LL.D.	1882	Crown.
1868	<b>Engineering</b> <sup>4</sup> .....	GEO. FREDERICK ARM- STRONG, M.A., C.E.	1885	Crown.
1790	<b>Agriculture &amp; Rural Economy</b> <sup>5</sup>	ROBERT WALLACE .....	1885	Lds. of Sess., Cur. & Univ. Ct.
1898	<b>Public Health</b> <sup>6</sup> .....	CHAS. HUNTER STEWART, M.B., C.M., D.Sc.	1898	Univ. Court.

FACULTY OF DIVINITY.

Dean—Professor PATRICK, D.D.

1583	<b>Divinity</b> .....	ROBERT FLINT, D.D. ....	1876	Curators.
1846	<b>Biblical Criticism &amp; Biblical Antiquities</b>	JOHN PATRICK, D.D. ....	1898	Crown.
1694	<b>Ecclesiastical History</b>	MALCOLM CAMPBELL TAYLOR, D.D.	1877	Crown.
1642	<b>Hebrew and Semitic Languages</b>	ARCHD. ROBT. STIRLING KENNEDY, B.D., D.D.	1895	Curators.

FACULTY OF LAW.

Dean—Professor Sir LUDOVIC GRANT, Bart., B.A.

1707	<b>Public Law</b> .....	Sir LUDOVIC GRANT, Bart., B.A.	1890	Crown.
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<sup>1</sup> This Chair was endowed by Mr H. G. and Miss Frances Watson.

<sup>2</sup> This Chair was originally endowed by the Trustees of the late Dr A. Bell, with a sum of £6000, to which a further sum of £4500 out of the Bell Fund was added by the Educational Endowments Commission in 1887.

<sup>3</sup> This Chair was originally endowed in 1871 by a sum of £6000 mortified by Sir Roderick Impey Murchison, Bart., and by an annual vote by Parliament.

<sup>4</sup> This Chair was endowed in 1868 by Sir David Baxter, and by an annual vote of Parliament.

<sup>5</sup> The Professor is elected by nine Delegates, three chosen by the Judges of the Court of Session, three by the Curators, and three by the University Court.

<sup>6</sup> This Chair, "The Bruce and John Usher Chair of Public Health," was endowed by legacy of £5000 from the late Alexander Low Bruce, Esq.; donations of £1163 from Mrs A. L. Bruce and other members of the Bruce family; £8000 from John Usher, Esq. of Norton; and £1000 from Messrs William Younger & Co.



Date of Institution.	Chairs.	Professors.	Appointed.	Patrons.
1710	Civil Law.....	JAS. MACKINTOSH, B.A.	1893	{ Fac. of Adv., and Cur. <sup>1</sup>
1719	History (Constitu- tional, etc.)	JOHN KIRKPATRICK, LL.B., LL.D.	1881	Do. <sup>1</sup>
1722	Scots Law.....	JOHN RANKINE, LL.D.	1888	Do. <sup>1</sup>
1807	Forensic Medicine....	Sir HENRY DUNCAN LITTLEJOHN, M.D., LL.D.	1897	Crown.
1825	Conveyancing <sup>2</sup> .....	JOHN LITTLE MOUNSEY, W.S.	1900	{ Cur., Dep.-Kpr. and W.S. Soc. <sup>3</sup>
1871	Commercial and Poli- tical Economy and Mercantile Law	JOSEPH SHIELD NICHOL- SON, M.A., D.Sc.	1880	Cur., & Merch. Co.

## FACULTY OF MEDICINE.

Dean—Professor FRASER, M.D., LL.D., F.R.S.,				
1713	Chemistry.....	ALEX. CRUM BROWN, M.D.	1869	Curators.
1767	Natural History.....	JAMES COSSAR EWART, M.D.	1882	Crown.
1676	Botany.....	BAYLEY BALFOUR, M.D.	1888	Curators.
1705	Anatomy.....	Sir WM. TURNER, M.B.	1867	Curators.
1685	Physiology.....	EDW. ALBERT SCHÄFER, F.R.S.	1899	Curators.
1831	Pathology.....	WILLIAM SMITH GREEN- FIELD, M.D.	1881	Curators.
1768	Materia Medica.....	THOMAS RICHARD FRASER, M.D.	1877	Curators.
1685	Medicine.....	JOHN WYLLIE, M.D.....	1900	Curators.
1831	Surgery.....	JOHN CHIENE, M.D.....	1882	Curators.
1726	Midwifery.....	ALEX. RUSSELL SIMPSON, M.D.	1870	Curators.
1807	Forensic Medicine....	Sir HENRY DUNCAN LITTLEJOHN, M.D.	1897	Crown.
1803	Clinical Surgery.....	THOS. ANNANDALE, M.D.	1877	Crown.
1741	Clinical Medicine.....	THOMAS RICHARD FRASER, M.D.; WILLIAM SMITH GREENFIELD, M.D.; and JOHN WYLLIE, M.D.; Diseases of Women — ALEXANDER RUSSELL SIMPSON, M.D.		
1898	Public Health <sup>4</sup> .....	CHARLES HUNTER STEWART, M.B., CM., D.Sc.	1898	Univ. Court.

## FACULTY OF MUSIC.

Dean—Professor NIECKS, Mus. D., The PRINCIPAL, *ex officio*.

Professor KIRKPATRICK, appointed by the Senatus.

1839	Reid Chair of Music..	FRED. NIECKS, Mus. D.	1891	University Court.
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## UNIVERSITY LECTURERS.

	Subjects.	Lecturers.		
1892	Rhet. and English Lit.	G. GREGORY SMITH, M.A.	1892	University Court.
1892	Latin .....	JAMES MILL, M.A.....	1896	Do.

<sup>1</sup> For each of these Chairs the Faculty of Advocates send to the Curators a leet of two, of whom the Curators must choose one.

<sup>2</sup> Endowed by the Society of Writers to the Signet.

<sup>3</sup> The Election is by—(1) Two Delegates from the Curators; (2) Two from the Society of Writers to the Signet; and (3) The Deputy-Keeper of the Signet.

<sup>4</sup> See footnote 6, page 3.

Date of Institution.	Subjects.	Lecturers.	Appointed.	Patrons.
1892	<b>Greek</b> .....	ALEXANDER W. MAIR, M.A.	1899	University Court.
1892	<b>Mathematics</b> .....	CHARLES TWEEDIE, M.A., B.Sc.	1892	Do.
1892	<b>Natural Philosophy</b> .....	WILLIAM PEDDIE, D.Sc.	1892	Do.
1892	<b>Applied Mathematics</b> .....	CARGILL G. KNOTT, M.A., D.Sc.	1892	Do.
1892	<b>Logic &amp; Metaphysics</b> .....	ROBERT P. HARDIE, M.A.	1892	Do.
1892	<b>Moral Philosophy</b> .....	HENRY BARKER, M.A.	1898	Do.
1894	<b>French Lang., Lit., and Romance Philology</b> .....	CHARLES SAROLEA, Ph.D., D.Litt.	1894	Do.
1894	<b>German Lang., Lit., and Teutonic Philology</b> .....	OTTO SCHLAPP, Ph.D.	1894	Do.
1894	<b>Chemical Theory</b> .....	LEONARD DOBBIN, Ph.D.	1894	Do.
1894	<b>Plant Physiology</b> .....	A. W. BORTHWICK, B.Sc.	1898	Do.
1894	<b>Mineralogy and Crystallography</b> .....	HUGH MARSHALL, D.Sc.	1894	Do.
1894	<b>Petrology</b> .....	JOHN SMITH FLETT, M.A., D.Sc., M.B., C.M.	1894	Do.
1894	<b>Advanced Physiology</b> .....	T. H. MILROY, M.D., B.Sc.	1899	Do.
1894	<b>Physiological Chemistry</b> .....			
1895	<b>Geometrical and Mechanical Drawing</b> .....	WALTER HUME KERR, M.A., B.Sc.	1895	Do.
1894	<b>Agricultural Chemistry</b> .....	A. P. AITKEN, D.Sc.	1894	Do.
1889	<b>Forestry</b> .....	Colonel F. BAILEY, R.E.	1892	Do.
1890	<b>Agricultural Entomology</b> .....	WILLIAM FREEMAN, LL.D., B.Sc.	1891	Do.
1887	<b>Gifford Lecturer on Natural Theology</b> .....	Professor WILLIAM JAMES of Harvard University	1898	Do.
1889	<b>Gunning Lecturer</b> .....	Rev. JOHN M. ROBERTSON, M.A., St Ninians	1899	Do.
1894	<b>International Private Law</b> .....	N. J. D. KENNEDY, M.A.	1899	Do.
1894	<b>Procedure &amp; Evidence</b> .....	JOHN JAMES COOK, M.A., LL.B.	1895	Do.
1879	<b>Mental Diseases</b> .....	THOS. S. CLOUSTON, M.D.	1879	Do.
1883	<b>Diseases of the Eye</b> .....	GEORGE A. BERRY, M.B., C.M.	1896	Do.
1885	<b>Clinical Instruction on Diseases of Children</b> .....	T. M. BURN MURDOCH, M.B., and staff of the Royal Hospital for Sick Children.	1889	Do.
1885	<b>Embryology and Vertebrate Zoology</b> .....	JOHN BEARD, D.Sc.	1894	Do.
1894	<b>Regional Anatomy</b> .....	DAVID HEPBURN, M.D.	1894	Do.
1894	<b>Experimental Pharmacology</b> .....	WILLIAM C. SILLAR, M.B., B.Sc.	1894	Do.
1894	<b>Pathological Bacteriology</b> .....	D. A. WELSH, M.D.	1898	Do.
1897	<b>Diseases of the Larynx, Ear, and Nose</b> .....	PETER M'BRIDE, M.D.	1897	Do.
1893	<b>Diseases of Tropical Climates</b> .....	ANDW. DAVIDSON, M.D.	1899	Do.
1899	<b>Clinical Instruction on Diseases of the Skin</b> .....	W. ALLAN JAMIESON, M.D.	1899	Do.

## UNIVERSITY ASSISTANTS.

## IN THE FACULTY OF ARTS.

Subjects.	Assistants.
Rhetoric and Eng. Liter.....	G. GREGORY SMITH, M.A.
Humanity.....	JAMES MILL, M.A.
Greek.....	ALEXANDER W. MAIR, M.A.
Hebrew and Semitic Languages	ANDREW TWEEDIE, M.A., B.D.
Mathematics.....	CHARLES TWEEDIE, M.A., B.Sc.
Natural Philosophy.....	WILLIAM PEDDIE, D.Sc.
Do. (Mechanical)...	THOMAS LINDSAY.
Do. under Nichol Foundation	ALEX. SHAND.
Logic and Metaphysics.....	R. P. HARDIE, M.A.
Moral Philosophy.....	HENRY BARKER, M.A.
History.....	D. P. HEATLEY.
Political Economy, &c.....	ARCHIBALD B. CLARK, M.A.

## IN THE FACULTY OF SCIENCE.

Geology.....	JOHN S. FLETT, M.A., D.Sc., M.D., C.M.
Engineering.....	W. H. KERR, M.A., B.Sc.
Do., Demonstrator	GEORGE WILSON.

## IN THE FACULTY OF DIVINITY.

Divinity.....	Rev. ALEXANDER HORN, B.D.
Hebrew and Semitic Languages	ANDREW TWEEDIE, M.A., B.D.

## IN THE FACULTY OF LAW.

Civil Law.....	J. M. IRVINE, M.A., B.Sc., LL.B.
Scots Law.....	W. M. GLOAG, B.A.
Conveyancing.....	EDWARD J. BAXTER.

## IN THE FACULTY OF MEDICINE.

Chemistry.....	LEONARD DOBBIN, Ph.D.; HUGH MARSHALL, D.Sc.; WILLIAM WHITE TAYLOR, M.A., B.Sc.; J. P. LONGSTAFF; JOHN W. EASTHAM, B.Sc.; JAMES KERR, B.Sc.
Zoology.....	J. BEARD, D.Sc.; GREGG WILSON, M.A., D.Sc.
Botany.....	J. H. BURRAGE, M.A., and A. W. BORTHWICK, B.Sc.
Anatomy.....	DAVID HEPBURN, M.D.; E. H. FRASER, M.B.; DAVID WATERSTON, M.B., C.M.; and CHARLES MINER COOPER, M.B., C.M.
Physiology.....	T. H. MILROY, M.D., B.Sc.; P. T. HERRING, M.D.; JOHN MALCOLM, M.D.; and SUTHERLAND SIMPSON, B.Sc., M.B., Ch.B.
Pathology.....	D. A. WELSH, M.D.; J. M. BEATTIE, M.B. Laboratory Assistant—RICHARD MUIR.
Materia Medica.....	WM. C. SILLAR, M.B., C.M., B.Sc., and D. B. WATERS, M.B., Ch.B.
Medicine.....	J. GIBSON CATTANACH, M.B., C.M.
Clinical Medicine Tutors...	J. G. CATTANACH, M.B., C.M.; JAMES M. BEATTIE, M.B., C.M.; EDWIN MATTHEW, M.B., Ch.B.; and W. FORDYCE, M.A., M.D. (for Diseases of Women).
Surgery.....	JOHN STEVENSON, M.B., C.M.; GEORGE L. CHIENE, M.B., C.M.
Midwifery.....	WILLIAM FORDYCE, M.D.
Forensic Medicine.....	T. W. DRINKWATER, Ph.D.
Public Health.....	J. BUCHANAN YOUNG, M.B., D.Sc.
Clinical Surgery Tutor.....	R. BLACK PURVES, M.B., C.M., F.R.C.S.E.

# EXAMINERS.

## FOR PRELIMINARY EXAMINATION.

The Professors of or Lecturers on the several subjects, and the following additional Examiners:—

Subjects.	Examiners.	Appointed.	Patrons.
English.....	OLIVER ELTON, B.A.	1898	University Court.
Latin }.....	F. R. JAMIESON, M.A.	1898	Do.
Greek }.....			
Mathematics.....	JAMES GOODWILLIE, M.A., B.Sc.	1898	Do.
French.....	LOUIS BARBÉ.....	1900	Do.
German.....	GEORGE B. GARDINER, M.A., D.Sc.	1900	Do.
Italian.....			
Dynamics.....	JAMES GOODWILLIE, M.A., B.Sc.	1898	Do.

## FOR DEGREES, &c.

### I.—IN THE FACULTY OF ARTS.

The Professors of or Lecturers on the several Subjects, and the following additional Examiners:—

#### I. LANGUAGE AND LITERATURE.

Subjects.	Examiners.	Appointed.	Patrons.
Latin.....	F. R. JAMIESON, M.A. and	1898	University Ct.
Greek.....	Prof. E. A. SONNENSCHN		
English.....	OLIVER ELTON, B.A.....	1898	Do.
French.....	LOUIS BARBÉ.....	1900	Do.
German.....	GEORGE B. GARDINER, M.A., D.Sc.	1900	Do.
Sanskrit.....	Dr RUDOLPH HOERNLE, M.A.	1900	Do.
Hebrew and Semitic Languages.....	W. B. STEVENSON, M.A., B.D.	1899	Do.
Classical Archæology...	Professor ERNEST GARDNER.	1897	Do.
Celtic.....	GEORGE HENDERSON, M.A., Ph.D.	1900	Do.

#### 2. MENTAL PHILOSOPHY.

Logic and Metaphysics, }.....	CHAS. M. DOUGLAS, M.A., D.Sc.	1899	Do.
Moral Philosophy.....			
Political Economy.....	JOHN ROW-FOGO.....	1897	Do.
Education.....	W. L. CARRIE, M.A.....	1896	Do.
Philosophy of Law....	J. S. TAYLOR CAMERON, LL.B.	1899	Do.

#### 3. SCIENCE.

Mathematics.....	JAMES GOODWILLIE, M.A., B.Sc.	1898	Do.
Natural Philosophy....			
Astronomy.....	W. E. PLUMMER, M.A. ....	1895	Do.
Chemistry.....	W. H. PERKIN, Ph.D.....	1896	Do.
Zoology.....	J. R. AINSWORTH DAVIS, M.A.	1899	Do.
Botany.....	ROBERT TURNBULL, B.Sc....	1897	Do.
Geology.....	B. N. PEACH, F.R.S.....	1900	Do.

#### 4. HISTORY AND LAW.

History.....	P. H. BROWN, M.A., LL.D.	1900	Do.
Archæology and Art (History of).....	WALTER ARMSTRONG, B.A. (Oxon.).	1897	Do.
Constitutional Law and History.....	J. S. TAYLOR CAMERON, LL.B.	1899	Do.
Roman Law.....			
Public Law.....			

## II.—SCIENCE.

## 1. PURE SCIENCE.

The Professors of and Lecturers on the several subjects, and the additional Examiners in Mathematics, Natural Philosophy, Zoology, Botany, Chemistry, Astronomy, Anatomy, Physiology, and Geology.

## 2. ENGINEERING.

The Professors of and Lecturers on the several subjects, the additional Examiners in Mathematics, Natural Philosophy, and Chemistry, and in  
**Engineering**..... DAVID M. WESTLAND, C.E. 1897 University Court.

## 3. PUBLIC HEALTH.

The Professors of and Lecturers on the several subjects, and the following additional Examiners:—

Subjects.	Examiners.	Appointed.	Patrons.
<b>Physics</b> .....	JAMES GOODWILLIE, M.A., 1898	University Court.	
	B.Sc.		
<b>Laboratory Work</b> .....	JOHN ROBERTSON, M.D., 1897	Do.	
	B.Sc.		
<b>Medicine in its bearings on Public Health</b> .....	JOHN WYLLIE, M.D..... 1898	Do.	
<b>Sanitation, Sanitary Law, and Vital Statistics</b> .....	R. BRUCE LOW, M.D..... 1897	Do.	

## 4. AGRICULTURE.

The Professors of and Lecturers on the several subjects, and the following additional Examiners:—

The additional Examiners in Mathematics, Chemistry, Botany, Natural History, Geology, and Political Economy, and in			
<b>Agriculture</b> .....	T. H. MIDDLETON, B.Sc. 1896	University Court.	
<b>Veterinary Hygiene</b> .....	R. RUTHERFORD, 1898	Do.	
	F.R.C.V.S.		
<b>Chemistry as applied to Agriculture</b> .....	JOHN A. MURRAY, B.Sc. 1896	Do.	
<b>Political Economy</b> .....	JOHN ROW-FOGO..... 1897	Do.	
<b>Forestry</b> .....	Dr JOHN NISBET..... 1900	Do.	
<b>Agricultural Entomology</b>	R. STEWART MAC- DOUGALL, M.A., D.Sc. 1899	Do.	

## III.—IN THE FACULTY OF DIVINITY.

The Professors in the Faculty of Divinity, and the following additional Examiners:—

ALEXANDER S. MARTIN, M.A., B.D.....	1899	University Court
WILLIAM B. STEVENSON, M.A., B.D.....	1899	Do.

## IV.—IN THE FACULTY OF LAW.

The Professors of, and Lecturers on, the several subjects, and the following additional Examiners:—

<b>Scots Law, International Private Law, Convey- ancing, and Forensic Medicine</b> .....	JAMES A. HOPE, LL.B. 1890	University Court.
<b>Roman, Public, Interna- tional, and Constitu- tional Law, and General Jurisprudence</b> .....		
	J. S. TAYLOR CAMERON, 1899	Do.
	LL.B.	
<b>Political Economy</b> .....	JOHN ROW-FOGO..... 1897	Do.

## V.—IN THE FACULTY OF MEDICINE.

The Professors in the Faculty of Medicine, and the following additional Examiners:—

<b>Botany</b> .....	ROBERT TURNBULL, B.Sc..... 1897	University Court.
<b>Zoology</b> .....	J. R. AINSWORTH DAVIS, 1899	Do.
	M.A..	



Subjects.	Examiners.	Appointed.	Patrons.
Physics .....	JAS. GOODWILLIE, M.A., B.Sc.	1898	University Court.
Chemistry .....	W. H. PERKIN, Ph.D.	1896	Do.
Anatomy .....	JOHNSON SYMINGTON, M.D.	1896	Do.
Physiology .....	DE BURGH BIRCH, M.D.	1897	Do.
Materia Medica .....	CHAS. O. HAWTHORNE, M.D.	1900	Do.
Pathology .....	G. SIMS WOODHEAD, M.D.	1896	Do.
Forensic Medicine and Public Health .....	R. BRUCE LOW, M.D.	1897	Do.
Surgery .....	J. CRAWFORD RENTON, M.D.	1896	Do.
	ALEX. GORDON MILLER, M.D.	1898	Do.
Clinical Surgery .....	C. W. MACGILLIVRAY, M.D.	1900	Do.
	JOHN BARLOW, M.D.	1900	Do.
Medicine .....	GEORGE A. GIBSON, M.D.	1897	Do.
Clinical Medicine .....	J. O. AFFLECK, M.D.	1896	Do.
Midwifery .....	JAMES H. FERGUSON, M.D.	1897	Do.

## VI.—IN THE FACULTY OF MUSIC.

The Professor of Music and Sir ALEXANDER C. MACKENZIE, Mus. D.

### FOR SCHOOLMASTER'S DIPLOMA.

The Professor of Education and W. L. CARRIE, M.A. 1897.

### FOR TITLE OF LITERATE IN ARTS.

The Professors of and Lecturers on the several subjects, and the Examiners for Degrees in Arts.

—o—

**University Librarian.**—HUGH ALEXANDER WEBSTER.

**Assistant Librarians.**—ALEXANDER ANDERSON ; DAVID CUTHBERTSON ; CHAS. MARTIN ; WILLIAM WRIGHT ; GEORGE TAIT ; EDMOND MURISSET ; JAMES H. S. GREGORY, at *University New Buildings*.

—o—

**Organist.**—THOMAS H. COLLINSON, Mus. B.

—o—

### KEEPERS OF MUSEUMS.

Anatomical Museum .....	Professor Sir WM. TURNER.
Do. Assistant Keeper .....	ALEX. M. OSLER.
Museum of Natural History .....	Professor EWART.

—o—

Clerk of Senatus .....	THOMAS GILBERT.
Assistant Clerks .....	{ JAMES DOWIE, JOHN STIRTON, THOMAS F. HARLEY.
Clerk of Works .....	ALLAN E. L. CLARK.
Janitor and Mace-Bearer .....	JAMES TWEEDDALE.
Warders .....	JAMES DONALDSON, WILLIAM MURRAY.
Caretaker, Music Class Room .....	C. W. WELLY.
Caretaker, M'Ewan Hall .....	BRUCE STRUTHERS.

—o—

### GENERAL COUNCIL.

President .....	{ The Right Hon. ARTHUR JAMES BALFOUR, M.P., D.C.L., &c., Chan- cellor of the University.
Vice-Presidents .....	The Rector, The Principal, The Chan- cellor's Assessor, The Rector's Assessor.
Representative in Parliament .....	Sir JOHN BATTY TUKE, M.D., F.R.C.P.E.
Convener of Business Committee .....	J. CAMPBELL LORIMER, LL.B., Advocate.
Convener of Finance Committee .....	DAVID D. BUCHAN, LL.B., S.S.C.
Secretary and Registrar .....	THOMAS GILBERT.

# Constitution of the Unibersity.



**T**HE University of Edinburgh was originally the "College of Edinburgh" or "The Town's College," founded in 1583 by the Town Council of Edinburgh, under general powers granted by the Charter of King James VI., dated 14th April 1582. No Charter of foundation is extant; but from the first the College possessed the privilege of conferring degrees. This privilege was ratified by the "Act of Confirmation," passed in 1621, which secured to the "College of James VI." (as it had come to be called) all the rights, immunities, and privileges enjoyed by the Universities of Scotland. This ratification was renewed in the Treaty of Union between England and Scotland, and in the Act of Security. Gradually, in Acts of General Assembly, of Town Council, and of Parliament, the "College of James VI." came to be styled "The University of Edinburgh"; but it remained under the control and patronage of the Town Council down to 1858, when, by the Universities Act, all the Universities of Scotland received new and autonomous constitutions.

The University is a Corporation consisting of the Chancellor, Rector, Principal, Professors, Registered Graduates and Alumni, and Matriculated Students; and from 1858 to 1890 its government was vested in the Senatus Academicus (consisting of the Principal and the Professors), subject to the review and control of the University Court.

By the Universities (Scotland) Act 1889, the University Court was constituted a body corporate, to which the whole property belonging to the University at the passing of the Act was transferred, with full power of administration.

The Senatus, as heretofore, regulates the teaching and discipline of the University, subject to the provisions of the Universities Acts of 1858 and 1889.

## CHANCELLOR.

The Chancellor is elected by the General Council for life. Changes in the ordinances and in University arrangements, proposed or approved by the University Court, must receive his

sanction. Degrees are conferred by him, or by the Vice-Chancellor. The Chancellor is President of the General Council, and nominates an Assessor in the University Court. Appointments:—

Right Hon. Lord Brougham, 1859.

Right Hon. John Inglis, D.C.L., LL.D., 1868.

Right Hon. ARTHUR J. BALFOUR, M.P., D.C.L., LL.D., &c., 1891.

### VICE-CHANCELLOR.

The Vice-Chancellor, nominated by the Chancellor, may, in absence of the Chancellor, confer Degrees, but cannot discharge any other of the Chancellor's duties. In the Vice-Chancellor's absence Degrees are conferred by the Principal, or by the senior member of Senatus.

The Vice-Chancellor acts as Returning Officer at Parliamentary Elections. If there be no Vice-Chancellor at the time, the University Court appoints one to act as Returning Officer. Appointments:—

Sir D. Brewster, appointed 1860.  
Sir Alexander Grant, Bart., 1868.

Sir WILLIAM MUIR, K.C.S.I.,  
D.C.L., &c., 1885.

### \* RECTOR.

The Rector is elected by the Matriculated Students in the University on such day in October or November as may be fixed by the University Court after consultation with the Senatus, but not later than the second Saturday in November. The term of office is three years. The next election will take place in November 1902. The Rector is President of, and nominates an Assessor in, the University Court. He may, before he appoints his Assessor, confer with the Students' Representative Council. No Principal or Professor of any Scottish University is eligible. Appointments:—

Rt. Hon. W. E. Gladstone, 1859.  
Thomas Carlyle, 1865.

Rt. Hon. Lord Moncreiff, 1868.

Sir W. Stirling Maxwell, Bt., 1871.

Rt. Hon. Earl of Derby, 1874.

Most Hon. the Marquess of Hartington, 1877.

Rt. Hon. Earl of Rosebery, 1880.

Rt. Hon. Earl of Iddesleigh, 1883.

Most Hon. the Marquess of Lothian,  
1887.

Rt. Hon. George J. Goschen, 1890.

Rt. Hon. J. P. B. Robertson, 1893.

Rt. Hon. Lord Balfour of Burleigh,  
1896.

Most Hon. the Marquess of DUFFERIN AND AVA, 1899.

### REPRESENTATIVE IN PARLIAMENT.

Under Clauses 27 to 41 of the “Representation of the People (Scotland) Act,” 31 & 32 Vict., cap. 48, the General Councils of the Universities of Edinburgh and St Andrews elect a Member of Parliament for these Universities.

When a poll is demanded, the votes are given by voting papers issued by the Registrar.

The appointments have been—

Sir Lyon, afterwards Lord, Playfair, K.C.B., LL.D., 1868.

Rt. Hon. J. H. A. Macdonald, C.B., Q.C., LL.D., 1885, 1886.

M. T. Stormonth Darling, Q.C., 1888.

Rt. Hon. Sir Charles J. Pearson, Q.C., LL.D., 1890, 1892.

Sir William Overend Priestley, K.B., M.D., LL.D., 1896.

Sir JOHN BATTY TUKE, M.D., F.R.C.P.E., 1900.

The Parliamentary constituency for 1900 is as follows :—

Edinburgh.....	8667
St Andrews.....	1463

Total in 1900.....10,130

### UNIVERSITY COURT.

Under the Universities Act 1858, the Court has power :—

1. To review all decisions of the Senatus, and to be a Court of Appeal from the Senatus, except as otherwise provided in the Universities Act.

2. To effect improvements in the internal arrangements of the University, after due communication with the Senatus, and with the sanction of the Chancellor; provided all such proposed improvements be submitted to the General Council for consideration.

3. To require due attention on the part of the Professors to the Regulations as to the mode of teaching and other duties imposed on the Professors.

4. To fix and regulate, from time to time, the Fees in the several Classes.

5. Upon sufficient cause shewn, and after due investigation, to censure any member of the Senatus, or to suspend him from office, and from the emoluments thereof, in whole or in part, for any period not exceeding one year, or to require him to retire on a retiring allowance, or to deprive him of office; and during the suspension of any Professor, to make provision for the teaching of his class: provided no such sentence of censure, suspension, deprivation, etc., shall have effect until approved by Her Majesty in Council.

By Sec. xix. any of the Rules and Ordinances enacted by the Universities Commissioners under the Act, may be altered or revoked by the University Court of the University to which they are applicable, but only with the written consent of the Chancellor, and with the approval of Her Majesty in Council.

By the Universities (Scotland) Act 1889, the University Court is a body corporate with perpetual succession and a common seal ; and all the property belonging to the University at the passing of the Act is now vested in that body.

By the same Act, the University Court, besides the powers conferred upon it by the Act of 1858, has power—

- (1.) To administer and manage the whole revenue and property of the University, including funds mortified for bursaries and other purposes, and have all the powers necessary for the purpose.
- (2.) To review any decision of the Senatus appealed against by a member of Senatus, or other member of the University having an interest, and to take into consideration all representations and reports made to it by the Senatus and by the General Council.
- (3.) To review, on representation made by any of its members, or by any member of Senatus, any decision which the Senatus may come to under section seven, sub-section one, but the University Court shall not review any decision of the Senatus in a matter of discipline, except upon appeal taken either by a member of Senatus or by a member of the University directly affected.
- (4.) To appoint professors whose chairs are in the patronage of the University ; to appoint examiners and lecturers ; and to grant recognition to the teaching of any college or individual teacher for the purposes of graduation.
- (5.) To define, on application by any member of Senatus, the nature and limits of a professor's duties under his commission.
- (6.) To take proceedings against a principal or professor, University lecturer, assistant, recognised teacher or examiner, or other person employed in teaching or examining, without the necessity of any one not a member of the Court appearing as prosecutor, and in such proceedings to call any member of the University to give evidence, and to require the production of documents, and to institute any inquiries it may deem necessary.
- (7.) To appoint from among members of the University or others, not being members of the Senatus, one third of the members of any committee charged, by ordinance of the Commissioners, with the superintendence of any libraries or museums belonging to the University ; and on representation made by any of its members, or by any member of Senatus, to review any decision which the Senatus, in the exercise of its powers, may come to in respect of the recommendations of such committee.
- (8.) To appoint committees of its own number, of not less than five members, with powers to report on any business entrusted to them by the University Court, or to carry out special instructions ordered by the Court.
- (9.) To elect the representative of the University on the General Medical Council, under the Medical Act 1886.
- (10.) After the expiration of the powers of the Commission to found new professorships, with the approval of the Universities Committee.

The University Court, by Section 21, has power to make



new ordinances, with the approval of Her Majesty in Council :

- (1.) With respect to the appropriation of the sum allotted to the University by the Commissioners out of the annual grant.
- (2.) Altering or revoking ordinances framed under the Universities Act 1858, or this Act ; and making new ordinances : provided that such ordinances, before being submitted to Her Majesty for approval, have been communicated by the University Court to the Senatus, to the General Council, and to the University Courts of the other Universities.

Meetings of the Court are held for ordinary business on the first Monday after the 11th of each month, except August and September, and on the first Monday after 19th January, if necessary, for hearing Registration Appeals. Other meetings may be called as the Court may direct. Special Meetings may be called by order of the Rector or the Principal, or by the Secretary on a requisition specifying the object, signed by at least three members of the Court.

The University Court holds the patronage of the Chair of Music ; of the new Chair of History ; of the Chair of Public Health ; of the Chair of Fine Art, in conjunction with the President of the Royal Scottish Academy ; and a share in the patronage of the Chair of Agriculture. It also elects three of the seven Curators of Patronage, and appoints the Lecturers and the Additional Examiners for Degrees.

The Court consists of—1. The Rector ; 2. The Principal ; 3. The Lord Provost of Edinburgh for the time being ; 4. An Assessor nominated by the Chancellor ; 5. An Assessor nominated by the Rector ; 6. An Assessor nominated by the Lord Provost, Magistrates, and Town Council of Edinburgh ; 7. Four Assessors elected by the General Council ; 8. Four Assessors elected by the Senatus Academicus ; 9. Representatives of affiliated Colleges, under section 15 (4) of the Act of 1889 (if any).

Seven members constitute a quorum. The Rector and his Assessor continue in office for three years ; but when the Chancellor or the Rector ceases to hold office, his Assessor continues to be a member of the Court until an Assessor is nominated by the new Chancellor or Rector. The other Assessors hold office

for four years; and all Assessors are eligible for re-election. No Principal or Professor of any Scottish University is eligible as Assessor to any other person or body than the Senatus. The Rector, and in his absence the Principal, presides at meetings of the Court, and in the absence of both a chairman is elected by the meeting. The person presiding at any meeting of the Court has a deliberative vote, and also a casting vote in case of equality.

An abstract of the proceedings of the Court 1899-1900 is given in a subsequent part of the Calendar.

The names of the present Assessors are given on page 1. The names of the Assessors before 1888 will be found in the Historical Appendix to List of University Graduates, published in 1889 (page 105). The Assessors since 1888 will be found in the various Calendars.

## UNIVERSITIES COMMITTEE OF PRIVY COUNCIL.

The Scottish Universities Committee of the Privy Council consists of the Lord President of the Privy Council, the Secretary for Scotland; the Lord Justice-General, Lord Justice-Clerk, Lord Advocate, and the Chancellor and the Lord Rector of each of the Universities, if members of the Privy Council; one member at least of the Judicial Committee of the Privy Council; and such other member or members of the Privy Council as Her Majesty may appoint.

The powers and duties of this Committee may, subject to rules or regulations passed by Her Majesty in Council, be exercised and discharged by any three or more of the members, one of whom shall be a member of the Judicial Committee of the Privy Council or a Senator of the College of Justice in Scotland.

## CURATORS OF PATRONAGE.

By the Universities Act of 1858, the patronage of seventeen Chairs, previously in the gift of the Town Council, was transferred to seven Curators—three nominated by the University Court, and four by the Town Council. The Curators also have a share in the

patronage of the Chairs of Humanity, Agriculture, Civil Law, History (and Constitutional Law), Scots Law, and Conveyancing, formerly in the gift of the Town Council, and of the Chairs of Celtic and of Political Economy, instituted after the passing of the 1858 Act. The Curators hold office for three years. The names of the present Curators are given on page 2.

## REPRESENTATIVE IN GENERAL MEDICAL COUNCIL.

Under the Medical Act of 1886, the University is entitled to elect a Member of the General Medical Council, who holds office for five years. Professor Sir William Turner was elected by the Senatus in December 1886. Under the Universities Act of 1889, the University Representative is now elected by the University Court, by whom Professor Sir William Turner, M.B., D.C.L., LL.D., was elected in 1891, and re-elected in 1896.

## PRINCIPAL.

The Principal, formerly elected by the Town Council, now by the Curators, holds office for life. He is the President of the Senatus Academicus ; in absence of the Rector, he presides at the meetings of the University Court ; and in absence of the Chancellor and Rector he presides at the Statutory Meetings of the General Council, and also at the Special Meetings, except for the election of Assessors.

## PRINCIPALS ELECTED SINCE 1586.

1586. Robert Rollock, <i>previously</i> <i>Regent</i>	1716. William Wishart
1599. Henry Charteris	1730. William Hamilton
1620. Patrick Sands	1732. James Smith
1622. Robert Boyd	1736. William Wishart, <i>secundus</i>
1623. John Adamson	1754. John Gowdie
1653. Robert Leighton	1762. William Robertson
1662. William Colvill	1793. George Husband Baird
1675. Andrew Cant	1840. John Lee
1685. Alexander Monro	1859. Sir David Brewster
1690. Gilbert Rule	1868. Sir Alexander Grant, Bart.
1703. William Carstares	1885. Sir WM. MUIR, K.C.S.I.

## SENATUS ACADEMICUS.

The Principal and the Professors constitute the Senatus. This body superintends and regulates the teaching and discipline of the University. The Senatus elects four Assessors in the University Court who hold office for four years. Two retire biennially, but may be re-elected ; and in case of a casual vacancy, the person elected to fill it goes out of office when the person whom he succeeded would in the ordinary rotation have retired. The Senatus appoints two-thirds of the members of the Library and the Museums Committees, receives their reports, and, subject to the review of the University Court, confirms, modifies, or rejects such reports. It also elects a representative in the General Assembly of the Church of Scotland ; two Managers of the Royal Infirmary ; two Governors of George Heriot's Trust ; two Governors of Morrison's Academy, Crieff ; two Governors of the Spence Bursary Trust ; one Governor of Dollar Institution ; and one Governor of Stiell's Hospital, Tranent. Degrees in Arts, Science, Divinity, Law, Medicine, and Music are conferred, on the recommendation of the Senatus, by either the Chancellor, the Vice-Chancellor, the Principal, or the senior Professor present. The Principal is President of the Senatus, with a deliberative and also a casting vote ; and, in his absence, the Senior Professor present acts as Chairman, also with a double vote. The Ordinary Meetings of Senatus are held on the first Saturday after the opening of the Winter Session ; the last Saturdays of November, January, February and March ; the Saturday immediately preceding the Christmas vacation ; the last Fridays of May, June and July ; and, for conferring Degrees, in April and July on days to be fixed at the December Meeting of the Senatus of the preceding year. Extraordinary Meetings may be called by the Principal or by three Professors. One-third of the Senatus constitutes a quorum.

The Secretary of Senatus, among other duties, summons the Meetings, prepares the Minutes, and intimates business assigned to the Principal, the Faculties, the Boards of Studies, &c. He also administers the *Sponsio Academica* to Graduates.

## FACULTIES.

The University now contains six Faculties, as constituted by Ordinance in 1893—viz., Arts, Science, Divinity, Law, Medicine, and Music. Each Faculty is presided over by a Dean, who is elected by the Professors of his Faculty, and who, among other duties, presents to the Chancellor or Vice-Chancellor the Graduands of his Faculty. The names of the present Deans are given on pp. 2, 3, and 4. The Chairs in the various Faculties are here given in chronological order. The Faculties as previously constituted are given in the CALENDAR for 1893-94, and in previous CALENDARS.

## FACULTY OF ARTS.

The Faculty of Arts embraces the Chairs of Humanity (Latin), Greek, Mathematics, Logic and Metaphysics, Moral Philosophy, Natural Philosophy, Hebrew and Semitic Languages, History (two Chairs), Rhetoric and English Literature, Sanskrit and Comparative Philology, Commercial and Political Economy, Education, Fine Art, and Celtic.

## REGENTS AND PROFESSORS IN THE FACULTY OF ARTS SINCE 1583.

*Regents of Philosophy, 1583-1708.*

[The Regents of Philosophy taught in rotation the four classes in the Curriculum of Arts, the "Bajans," the "Semi-Bajans," the "Bachelors," and the "Magistrands," as the Students of the first, second, third, and fourth year were respectively styled. Each Regent therefore taught every subject in the Curriculum—the Regent of Humanity being subordinate to the Regent of Philosophy, and being employed as a tutor in Classics or Unmatriculated Students. In 1708 the system was changed, and separate Professors for Latin, Greek, Logic and Metaphysics, Moral Philosophy and Natural Philosophy, were substituted for the Regents. A Professorship of Mathematics had previously existed.]

- 1583. Robt. Rollock, *first Regent*
- 1583. Duncan Nairn
- 1585. Charles Lumisdail
- 1586. Adam Colt
- 1586. Alexander Scrimgeour

- 1587. Philip Heslop
- 1588. Charles Fermeor Fairholm
- 1589. Henry Charteris
- 1589. Patrick Sands
- 1594. George Robertson
- 1597. William Craig
- 1597. John Adamson
- 1598. James Knox
- 1598. Robert Scott
- 1601. Andrew Young
- 1603. James Reid
- 1604. David Munro
- 1606. Blase Colt
- 1607. James Fairley
- 1608. William King
- 1611. Andrew Stevenson
- 1625. Samuel Rutherford
- 1625. Robert Ranken
- 1626. Thomas Crawford
- 1626. John Brown
- 1631. Alexander Hepburn



1636. James Wyseman  
 1638. James Wright  
 1638. Robert Young  
 1639. Duncan Forrester  
 1644. William Tweedie  
 1644. James Pillans  
 1647. Andrew Suttie  
 1653. John Wishart  
 1665. George Sinclair  
 1666. John Wood  
 1667. William Paterson  
 1679. Gilbert M'Murdoch  
 1679. Andrew Massie  
 1680. Alexander Cockburn  
 1682. Robert Lidderdail  
 1684. Herbert Kennedy  
 1686. Thomas Burnet  
 1689. Alexander Cunningham  
 1690. William Law  
 1695. John Row  
 1695. William Scott  
 1701. Charles Areskine  
 1703. Robert Stewart  
 1707. Colin Drummond

*Regents of Humanity, 1597-1708.*

1597. John Ray  
 1606. Blase Colt  
 1611. Oliver Colt  
 1611. Robert Burnet  
 — Andrew Stevenson  
 1623. Samuel Rutherford  
 1626. Thomas Craufurd  
 1630. John Armour  
 1633. Alexander Gibson  
 1636. James Wyseman  
 1638. Robert Young  
 1644. James Pillans  
 1653. John Wishart  
 1656. William Forbes  
 1656. James M'Gowan  
 1658. Hugh Smith  
 1663. William Cumming  
 1665. Andrew Ross  
 1665. Thomas Bell  
 1676. Gilbert MacMurdo  
 1679. Alexander Cunningham  
 1689. John Drummond

*Professors of Mathematics.*

1620. Andrew Young  
 1640. Thomas Craufurd  
 1674. James Gregory  
 1683. David Gregory  
 1692. James Gregory  
 1725. Colin M'Laurin  
 1747. Matthew Stewart  
 1775. Dugald Stewart  
 1785. Adam Ferguson  
 1785. John Playfair  
 1805. John Leslie  
 1819. William Wallace  
 1838. Philip Kelland  
 1879. GEORGE CHRYSTAL

*Professors of Humanity.*

1708. Laurence Dundas  
 1728. Adam Watt  
 1734. John Kerr  
 1741. George Stuart  
 1775. John Hill  
 1806. Alexander Christison  
 1820. James Pillans  
 1863. William Young Sellar  
 1891. Harry Chester Goodhart  
 1895. WILLIAM ROSS HARDIE

*Professors of Greek.*

1708. William Scott, *one of the Regents*  
 1729. William Scott, *secundus*  
 1730. Colin Drummond  
 1738. Robert Law  
 1741. Robert Hunter  
 1772. Andrew Dalziel  
 1805. George Dunbar  
 1852. John Stuart Blackie  
 1882. SAMUEL HENRY BUTCHER

*Professors of Logic and Metaphysics.*

1708. Colin Drummond, *one of the Regents*  
 1730. John Stevenson  
 1774. John Bruce  
 1786. James Finlayson  
 1808. David Ritchie

1836. Sir Wm. Hamilton, Bart.  
 1856. Alex. Campbell Fraser  
 1891. ANDREW SETH PRINGLE  
 PATTISON

*Professors of Moral Philosophy.*

1708. William Law, *one of the Regents*  
 1729. William Scott  
 1734. John Pringle  
 1745. William Cleghorn  
 1754. James Balfour  
 1764. Adam Ferguson  
 1785. Dugald Stewart  
 1810. Thomas Brown  
 1820. John Wilson  
 1853. P. C. M'Dougall  
 1868. Henry Calderwood  
 1898. JAMES SETH

*Professors of Natural Philosophy.*

1708. Robert Stewart, *one of the Regents*  
 1742. John Stewart  
 1759. Adam Ferguson  
 1764. James Russell  
 1774. John Robison  
 1805. John Playfair  
 1819. Sir John Leslie  
 1833. James David Forbes  
 1860. PETER GUTHRIE TAIT

*Professors of Hebrew and Semitic Languages.*

(See Faculty of Divinity.)

*Professors of History.*

1719. Charles Mackie  
 1753. John Gordon  
 1754. William Wallace  
 1755. John Pringle

1780. Alexander Fraser Tytler  
 1801. William Fraser Tytler  
 1821. Sir William Hamilton  
 1837. George Skene  
 1842. James Frederick Ferrier  
 1846. Cosmo Innes  
 1874. Æneas Jas. Geo. Mackay  
 1881. JOHN KIRKPATRICK  
 1894. George W. Prothero  
 1899. RICHARD LODGE

*Professors of Rhetoric and English Literature.*

1762. Hugh Blair  
 1784. William Greenfield  
 1801. Andrew Brown  
 1835. George Moir  
 1840. William Spalding  
 1845. William Edmondstone  
 Aytoun

1865. David Masson.  
 1895. GEORGE SAINTSBURY.

*Professors of Sanskrit.*

1862. Theodor Aufrecht  
 1875. JULIUS EGGELING

*Professors of Political Economy.*

(See also Faculty of Law.)

1871. W. B. Hodgson  
 1880. JOSEPH SHIELD NICHOLSON

*Professor of Education.*

1876. SIMON SOMERVILLE  
 LAURIE

*Professor of Fine Art.*

1880. GERARD BALDWIN BROWN  
*Professor of Celtic Languages, &c.*  
 1882. DONALD MACKINNON

## FACULTY OF SCIENCE.

[As Constituted in 1893 by Ordinance No. 12 (General No. 7).]

This Faculty embraces the Chairs of Mathematics, Natural Philosophy, Botany, Anatomy, Chemistry, Physiology, Natural History, Astronomy, Agriculture, Engineering, Geology, and Public Health.

PROFESSORS IN THE FACULTY SINCE ITS INSTITUTION IN 1893.

For Professors of Mathematics and Natural Philosophy, see under Faculty of Arts. For Professors of Botany, Anatomy, Chemistry, Physiology, Natural History, see under Faculty of Medicine.

*Professors of Practical Astronomy.*

- 1786. Robert Blair
- 1834. Thomas Henderson
- 1846. Charles Piazzi Smyth
- 1889. RALPH COPELAND

*Professors of Agriculture.*

- 1790. Andrew Coventry
- 1831. David Low
- 1854. John Wilson
- 1885. ROBERT WALLACE

*Professors of Engineering.*

- 1868. Fleeming Jenkin
- 1885. GEORGE FREDERICK ARMSTRONG

*Professors of Geology.*

- 1871. Archibald Geikie
- 1882. JAMES GEIKIE

*Professor of Technology.*

- 1855. George Wilson
- [Chair abolished in 1859.]

*Professor of Public Health.*

- 1898. CHAS. HUNTER STEWART

FACULTY OF DIVINITY.

This Faculty, the second in date, consists of the Chairs of Divinity, Hebrew and Semitic Languages, Ecclesiastical History, and Biblical Criticism and Antiquities.

PROFESSORS IN THE FACULTY OF DIVINITY SINCE 1620.

*Professors of Divinity.*

- 1620. Andrew Ramsay
- 1627. Henry Charteris
- 1629. James Fairley
- 1630. John Sharpe
- 1648. Alexander Colvill
- 1649. Samuel Rutherford
- 1650. David Dickson
- 1662. Patrick Scougall
- 1664. William Keith
- 1675. Laurence Charteris
- 1682. John Menzies
- 1683. John Strachan
- 1690. George Campbell
- 1701. George Meldrum
- 1709. William Hamilton
- 1732. James Smith
- 1733. John Gowdie
- 1754. Robert Hamilton
- 1779. Andrew Hunter
- 1809. William Ritchie
- 1828. Thomas Chalmers
- 1844. John Lee

- 1859. Thomas J. Crawford
- 1876. ROBERT FLINT

*Professors of Hebrew.*

- 1642. Julius Conradus Otto
- 1656. Alexander Dickson
- 1679. Alexander Amedeus
- 1681. Alexander Douglas
- 1692. Patrick Sinclair
- 1694. Alexander Rule
- 1702. John Goodall
- 1719. James Crawford
- 1732. William Dawson
- 1751. James Robertson
- 1792. George Husband Baird
- 1793. William Moodie
- 1812. Alexander Murray
- 1813. Alexander Brunton
- 1848. David Liston
- 1880. David Laird Adams
- 1892. John Dobie
- 1895. ARCHIBALD ROBERT STIRLING KENNEDY

*Professors of Ecclesiastical History.*

- 1702. John Cumming
- 1715. William Dunlop
- 1726. Matthew Crawford
- 1737. Patrick Cumming
- 1762. Robert Cumming
- 1788. Thomas Hardie
- 1799. Hugh Meiklejohn
- 1831. David Welsh
- 1844. James Robertson

- 1861. William Stevenson
- 1872. Robert Wallace
- 1876. MALCOLM CAMPBELL  
TAYLOR

*Professors of Biblical Criticism and  
Biblical Antiquities.*

- 1847. Robert Lee
- 1868. Arch. Hamilton Charteris
- 1898. JOHN PATRICK

## FACULTY OF LAW.

To this Faculty belong seven Chairs, viz.:—Public Law, Civil or Roman Law, History (Constitutional, &c.), Scots Law, Forensic Medicine, Conveyancing, and Political Economy.

## PROFESSORS IN THE FACULTY OF LAW SINCE 1707.

*Professors of Public Law.*

- 1707. Charles Areskine
- 1734. William Kirkpatrick
- 1735. George Abercrombie
- 1759. Robert Bruce
- 1764. James Balfour
- 1779. Allan Maconochie
- 1796. Robert Hamilton
- 1832. \* \* \*
- 1862. James Lorimer
- 1890. Sir LUDOVIC GRANT, Bt.

*Professors of Civil Law.*

- 1710. James Craig
- 1732. Thomas Dundas
- 1745. Kenneth M'Kenzie
- 1755. Robert Dick
- 1792. John Wilde
- 1800. Alexander Irving
- 1827. Douglas Cheape
- 1842. A. Campbell Swinton
- 1862. James Muirhead
- 1889. Henry Goudy
- 1893. JAMES MACKINTOSH

*Professors of History (Constitutional, &c.).*

- 1719. Charles Mackie
- 1753. John Gordon
- 1754. William Wallace

- 1755. John Pringle
- 1780. Alex. Fraser Tytler
- 1801. William Fraser Tytler
- 1821. Sir William Hamilton
- 1837. George Skene
- 1842. James Frederick Ferrier
- 1846. Cosmo Innes
- 1874. Æneas Jas. Geo. Mackay
- 1881. JOHN KIRKPATRICK

*Professors of Scots Law.*

- 1722. Alexander Bayne
- 1737. John Erskine
- 1765. William Wallace
- 1786. David Hume
- 1822. George Joseph Bell
- 1843. John Schank More
- 1861. George Ross
- 1864. George Moir
- 1865. Norman Macpherson
- 1888. JOHN RANKINE

*Professors of Forensic Medicine.*

- 1807. Andrew Duncan, *secundus*
- 1820. William Pulteney Alison
- 1822. Robert Christison
- 1832. Thomas Stewart Traill
- 1862. Sir Douglas MacLagan
- 1897. Sir HENRY DUNCAN  
LITTLEJOHN

*Professors of Conveyancing.*

1825. Macvey Napier  
1847. Allan Menzies  
1856. A. Montgomerie Bell  
1866. James Stuart Fraser Tytler

1892. John Philp Wood

1900. JOHN LITTLE MOUNSEY  
*Professors of Political Economy.*<sup>1</sup>

1871. W. B. Hodgson

1880. JOSEPH SHIELD NICHOLSON

FACULTY OF MEDICINE.

The Faculty consists of thirteen Chairs:—Botany, Physiology, Medicine, Anatomy, Chemistry, Midwifery, Natural History, Materia Medica, Surgery, Clinical Surgery, Forensic Medicine, Pathology, and Public Health. The Professors of Medicine, Materia Medica, Pathology, and Midwifery (for Diseases of Women), are also Professors of Clinical Medicine. Some of these Chairs were instituted in the seventeenth century, but it does not appear that the Medical School and Faculty of the University were established until the beginning of last century.

PROFESSORS IN THE FACULTY OF MEDICINE SINCE 1676.

*Professors of Botany.*

1676. James Sutherland  
1706. Charles Preston  
1712. George Preston

*Professors of Medicine and Botany.*

1738. Charles Alston  
1761. John Hope  
1786. Daniel Rutherford  
1820. Robert Graham  
1845. John Hutton Balfour

*Professors of Botany.*

1879. Alexander Dickson  
1888. ISAAC BAYLEY BALFOUR

*Professors of Medicine.*

1685. { Sir Robert Sibbald  
          { James Halket  
          { Archibald Pitcairne

*Professors of Institutes of Medicine  
or Physiology.*

1724. William Porterfield  
1726. { Andrew St Clair  
          { John Rutherford  
1747. Robert Whytt  
1766. William Cullen

1773. Alex. Monro Drummond

1776. James Gregory

1789. Andrew Duncan

1819. Andrew Duncan, *secundus*

1821. William Pulteney Alison

1842. Allen Thomson

1848. John Hughes Bennett

1874. William Rutherford

1899. EDW. ALBERT SCHÄFER

*Professors of Medicine.*

1724. William Porterfield

1726. { Andrew St Clair

          { John Rutherford

1747. Robert Whytt

1766. John Gregory

1773. William Cullen

1790. James Gregory

1821. James Home

1842. William Pulteney Alison

1855. Thomas Laycock

1876. Sir Thomas Grainger  
          Stewart

1900. JOHN WYLLIE

<sup>1</sup> This Chair was declared to be a Professorship in the Law as well as in the Arts Faculty by resolution of the Senatus Academicus in 1879.



*Professors of Anatomy.*

- 1705. Robert Elliot
- 1708. Adam Drummond
- 1716. John M'Gill
- 1720. Alexander Monro
- 1754. Alex. Monro, *secundus*
- 1798. Alexander Monro, *tertius*
- 1846. John Goodsir
- 1867. Sir WILLIAM TURNER

*Professors of Chemistry and Medicine.*

- 1713. James Crawford
- 1726. Andrew Plummer
- 1726. John Innes
- 1755. William Cullen
- 1766. Joseph Black
- 1795. Thomas Charles Hope

*Professors of Chemistry.*

- 1844. William Gregory
- 1858. Lyon Playfair
- 1869. ALEX. CRUM BROWN

*Professors of Midwifery.*

- 1726. Joseph Gibson
- 1739. Robert Smith
- 1756. Thomas Young
- 1780. Alexander Hamilton
- 1800. James Hamilton
- 1840. Sir J. Y. Simpson, Bart.
- 1870. ALEX. RUSSELL SIMPSON

*Professors of Natural History.*

- 1770. Robert Ramsay
- 1779. John Walker
- 1804. Robert Jameson
- 1854. Edward Forbes
- 1855. George James Allman

- 1870. Sir Wyv. T. C. Thomson
- 1882. JAMES COSSAR EWART

*Professors of Materia Medica.*

- 1768. Francis Home
- 1798. James Home
- 1821. Andrew Duncan, *secundus*
- 1832. Sir Robt. Christison, Bart.
- 1877. THOMAS RICHARD FRASER

*Professors of Surgery.*

- 1777. Alex. Monro, *secundus*
- 1798. Alexander Monro, *tertius*
- 1831. John William Turner
- 1836. Sir Charles Bell
- 1842. James Miller
- 1864. James Spence
- 1882. JOHN CHIENE

*Professors of Clinical Surgery.*

- 1803. James Russell
- 1833. James Syme
- 1869. Joseph Lister
- 1877. THOMAS ANNANDALE

*Professors of Forensic Medicine*  
(See Faculty of Law.)*Professors of Pathology.*

- 1831. John Thomson
- 1842. William Henderson
- 1869. W. R. Sanders
- 1881. WM. SMITH GREENFIELD

*Professors of Military Surgery.*

- 1806. John Thomson
- 1823. Sir George Ballingall
- [Chair abolished.]

*Professor of Public Health.*

- 1898. CHAS. HUNTER STEWART

## FACULTY OF MUSIC.

*Reid Professors of Music*

- 1839. John Thomson.
- 1841. Sir Henry Rowley Bishop
- 1844. Henry Hugh Pearson

- 1845. John Donaldson
- 1865. Sir Herbert Stanley Oakeley
- 1891. FREDERICK NIECKS

The Principal is a member of this Faculty *ex officio*, and Professor Kirkpatrick was appointed a member by the Senatus.

## GENERAL COUNCIL OF THE UNIVERSITY.

The Chancellor, the Members of the University Court, the Professors, and the Graduates, are entitled to be registered as Members of the General Council. The fee for registration is £1.

The Register, now containing 8667 Members, is conclusive of the rights of persons to be Members up to 1st January 1901. By the Universities Elections Amendment (Scotland) Act all candidates for graduation must pay the Registration Fee before they can appear for graduation.

Under the Universities Act of 1858, and the Commissioners' Ordinance No. 1, section 3, the Council meets twice a year—viz., on the *first Wednesday of May*, and on the *last Friday in October*, at three o'clock P.M., “*to take into their consideration all questions affecting the well-being and prosperity of the University, and to make representations from time to time on such questions to the University Court, who shall consider the same, and return to the Council their deliverance thereon.*” All proposed improvements in the arrangements of the University “shall be submitted to the University Council for their consideration.”

By the Universities Act 1889, besides the two statutory meetings above mentioned, the Council “may hold special meetings at the instance of the Chancellor, who shall convene such meetings on a requisition from a quorum of members, and the Council may adjourn any meeting, and may appoint Committees to investigate into and report upon any matter remitted to them or to carry out instructions given to them by the Council.” The Commissioners under this Act have fixed the quorum of the General Council at ten for every thousand or fraction of a thousand of members on the register, but this provision does not apply to the statutory half-yearly meetings, or to adjourned meetings.

At the meetings of the General Council, in the absence of the Chancellor, Rector, and Principal, the Chancellor's Assessor, and in his absence the Rector's Assessor shall preside; and in the absence of all of these, a Chairman shall be elected by the meeting, but no member of Senatus can preside at any meeting held for the election of an Assessor or Assessors. The

Chairman shall decide all points of order, and has a deliberative and a casting vote ; and in case of an equality of votes at the conclusion of a poll, the Chairman, or any one appointed by the University Court to act for him, shall have a casting vote.

The General Council of this University, and that of the University of St Andrews together, return a Member of Parliament.

The *Chancellor* of the University and *four of the Assessors* in the University Court are elected by the Council. The Chancellor holds office for life, and the Assessors for four years. Two of the Assessors retire biennially, but may be re-elected. In case of a casual vacancy the person elected to fill it retires when the person whom he succeeded would in ordinary rotation have retired. No member of the Senatus can vote or take part in the election of any Assessor of the General Council. The next election of two Assessors will take place at the statutory half-yearly meeting in *October 1901*.

Members of the General Council may borrow books from the Library and have out at one time five volumes on payment of an annual fee of 10s. 6d., or a single payment of £5 ; or may have ten volumes on payment of an annual fee of £1, 1s., or a single payment of £10.

Two Standing Committees are appointed by the General Council—viz., a Business Committee and a Finance Committee. The Conveners are :

*Business Committee*—J. Campbell Lorimer, LL.B.

*Finance Committee*—David D. Buchan, LL.B.

#### STUDENTS' REPRESENTATIVE COUNCIL.

*Presidents*—P. C. De la Pryme, L. C. Peel Ritchie, W. C. Ross. *Joint Hon. Secretaries*—W. H. Jefferson, W. MacDougall, M.A., William C. Ross, 27 Pitt Street, and L. C. Peel Ritchie, 1 Melville Crescent. *Hon. Auditor*—James Walker, C.A.

The Students' Representative Council was founded in 1884. Its functions are—(1) To represent the Students in matters affecting their interests ; (2) To afford a recognised means of communication between the Students and the University authorities ; and (3) To promote social life and academic unity among the Students. The Council is elected annually in

November, partly by the Students of the different Faculties, and partly by the recognised Students' societies. The Ordinary Meetings are held in November, December, January, February, March, May, June, July, and October. At the November meeting an executive committee is elected, consisting of the three presidents, two secretaries and treasurers, and eleven other members, representing the five Faculties. The Council also carries out its work by means of the following Standing Committees :—The Inter-Universities, Library, Social Residence, Amusements, *Student*, International Academic and Women's Committees. During the Winter Session it publishes weekly a University Magazine.

The Commissioners, acting under the Universities Act 1889, have issued an Ordinance to the following effect :—

- (1.) The Students' Representative Council shall submit to the University Court the regulations under which it exists, and these regulations as approved shall form the constitution of the Students' Representative Council.
- (2.) After the University Court has approved of the constitution, alterations must receive the approval of the University Court.
- (3.) 1. The Council may petition the Senatus as to any matter affecting the teaching and discipline of the University, and the Senatus shall dispose of the matter, or shall, if so prayed, forward such petition to the University Court, with such observations as it may make thereon.  
 2. The Council may petition the University Court as to any matter affecting the Students other than those falling under sub-section 1.  
 3. This Section shall not prejudice any right of appeal under Section 6, sub-section 2, of the said Act, nor the powers and jurisdiction of the Senatus, as to teaching and discipline.

### MATRICULATION.

University Matriculation consists in signing the *Sponsio Academica*, the Student thus entering his or her name in the Album of Students of the University, and in paying a fee of £1, 1s. for the academic year (1st Oct. to 1st Oct.), or a fee of 10s. 6d. for a Summer Session (1st May to 1st October). No person shall be deemed to be a Matriculated Student or shall enjoy any of the privileges of a Matriculated Student unless, in addition to paying the matriculation fee, he is enrolled as a Student in attendance in one or more classes in the University, and has paid the fees entitling him to such attendance : Provided that nothing herein contained shall affect the right of the University Court to exact a fee in lieu of and not exceeding the matriculation fee from any candidate for any examination or

for graduation, not being at the time a Matriculated Student, in addition to the fee payable for such examination or graduation. No one can attend a University Class without matriculating, except in those special cases in which an Entrance Fee of 5s. only is exacted (see page 29).

The Matriculated Students elect the Rector of the University. In case of an equality of votes, the Chancellor, or failing him, the Principal, has the casting vote. Students are also admitted to the University Library, and on certain days to the Museum of Natural History.

Candidates for Graduation who are attending Extra-Academical Lectures in Edinburgh, and not attending Classes within the University, must, at the beginning of each year, enrol their names in a book kept for that purpose, and pay a Fee of the same amount as the Matriculation Fee. In respect of such payment they have a right to use the University Library.

Sponsio Academica signed by students on matriculating :—

QUOD FAUSTUM FELIXQUE SIT. A. D.—

Ego Universitatis Academicæ Edinburgensis Discipulus sincerè ac sanctè promitto quod et syngraphâ hac meâ in perpetuum testatum cupio, mihi ante omnia cordi ac curæ futurum veræ pietatis studium ; me etiam in assuetis academici curriculum studiis sedulum fore, ut adolescentem bene institutum decet ; et quamdiu in illo curriculo permansero præceptoribus omnibus morigerum memet præstiturum, nec ullius dissidii aut tumultus clam palamve vel auctorem vel participem futurum, et per reliquam vitam Universitatem Academicam Edinburgensem ipsam grato et benevolo animo prosecuturum, idque omnibus officiis pro facultate mea et occasione data testaturum esse.

MATRICULATIONS (1st May 1899 to 1st May 1900).

FOR SUMMER SESSION 1899 :—

I. Faculty of Arts . . . . .	16
II. Faculty of Science . . . . .	20
III. Faculty of Divinity . . . . .	0
IV. Faculty of Law . . . . .	7
V. Faculty of Medicine . . . . .	27



SUMMER SESSION 1899 brought forward,	.	.	70
FOR WINTER SESSION 1899-1900:—			
I. Faculty of Arts	.	.	823
II. Faculty of Science	.	.	148
III. Faculty of Divinity	.	.	47
IV. Faculty of Law	.	.	362
V. Faculty of Medicine	.	.	1342
VI. Faculty of Music	.	.	22
			<hr/> 2744

Total Matriculations (1st May 1899 to 1st May 1900) 2814

NON-MATRICULATED EXTRA-ACADEMICAL GRADUATION  
STUDENTS (1st May 1899 to 1st May 1900).

I. Faculty of Medicine:—

Summer Session 1899	.	.	.	.	.	—
Academic Year 1899-1900	.	.	.	.	.	86

Total Non-Matriculated Extra-Academical Students (1st }  
May to 1st May) . . . . . }

86

UNIVERSITY ENTRANCE FEE FOR NON-MATRICULATED STUDENTS.

The University Court may admit non-Matriculated Students to any Class, on payment of an Entrance Fee (fixed at 5s.) in addition to the Class Fee ; but such attendance (1) will not qualify for Graduation, (2) nor entitle the Student to a Certificate of Attendance, (3) nor confer any other University privilege.

Courses which may be attended under this Regulation :—

Fine Art, short additional Courses on.

Procedure and Evidence.

Mental Diseases.

Diseases of the Eye.

Clinical Instruction on Diseases of Children.

Comparative Embryology.

Forestry.

Agricultural Entomology.

Music Classes.

Practical Pathological Bacteriology.

Chemical Laboratory.

Experimental Pharmacology.

Italian Language and Literature.

Celtic (for Classes not qualifying for Graduation).

German Lit. and Prose Comp. Courses, twenty lectures each.

Advanced Practical Physiology.

International Private Law.

Physics for non-Graduation Women Students of Medicine.

Diseases of Tropical Climates.

Number of Non-Matriculated Students who have paid the Entrance Fee  
1st May 1899 to 1st May 1900—49.

Other Courses may be sanctioned under this Regulation.

Students are subject to the disciplinary jurisdiction of the Senatus. Among offences visited with severe academic penalties may be mentioned riotous or disorderly conduct, copying at examinations, and mutilating or disfiguring books belonging to the Library.

### UNIVERSITY EXAMINERS.

The Examiners for Degrees are the Professors of, or Lecturers on, the different subjects, along with additional Examiners appointed by the University Court. As a general rule, no Professor, Lecturer, or University Assistant or Demonstrator can be appointed an additional Examiner.

### GRADUATION CEREMONIALS.

The relative precedence of each Faculty is as follows :—1. Divinity ; 2. Law ; 3. Medicine ; 4. Arts ; 5. Science ; 6. Music. The Deans take precedence in their respective Faculties, followed by the Members of their Faculties in the order of the dates of their Commissions.

Public Graduation Ceremonials are held annually about the middle of April (chiefly for Divinity, Law, Arts, Science, and Music), and about the end of July (for Medicine and Science). A special Ceremony is usually held about the end of October (chiefly for Degrees in Medicine).

Graduates must appear on these occasions in Academic Costume.

### ACADEMIC COSTUME.<sup>1</sup>

*Chancellor.*—Robe of Black Brocaded Satin, trimmed with Gold Lace, and with Gold Frogs down fronts and on sleeves. Black Silk Velvet Trencher, with Gold Button and Tassel.

*Vice-Chancellor.*—Robe and Trencher same as Chancellor's, but trimmed with Silver in place of Gold.

*Rector.*—Black Silk Gown, with Crimson Silk Velvet sleeves. The gown is trimmed round the collar and down the front edges with Broad Gold Lace, and the sleeves round bottom with a narrower Gold Lace. Black Silk Velvet Trencher, with Gold Button and Tassel.

<sup>1</sup> Graduates are requested to appear for Graduation wearing one hood only—viz., the one which indicates the Degree they are about to receive.

*Principal*.—Mauve Corded Silk Robe trimmed with Velvet to match. Black Silk Velvet Trencher, with Gold Button and Tassel.

*Members of University Court*.—Black Silk Robe, open sleeve, with Gold Frog on each sleeve.

With all of the above, Hoods appropriate to the Degree are worn.

The ordinary form of Gowns worn by Graduates of the University is the same in all the Faculties—viz., black silk or stuff, with long sleeves. The distinctive part of the costume is in the *Hood* appropriated to each Faculty. These Hoods are as follow :

LL.D.—Black *cloth*, lined with *blue* silk.

LL.B.—Black *silk*, lined with *blue* silk, bordered with white fur.

B.L.—Black *silk*, edged with *blue* silk three inches broad, trimmed with white fur.

D.D.—Black *cloth*, lined with *purple* silk.

B.D.—Black *silk*, lined with *purple* silk, bordered with white fur.

M.D.—Black *cloth*, with appended cape, lined and faced with *crimson* silk.

M.B. and Ch. B.—Black *silk*, lined with *crimson* silk, bordered with white fur.

D.Sc.—Black *cloth*, lined with *green* silk.

B.Sc.—Black *silk*, lined with *green* silk, bordered with white fur.

M.A.—Black *silk*, lined with *white* silk.

D.Litt.—Black *cloth*, lined with *royal blue* and *maize shot* silk.

D.Phil.—Black *cloth*, lined with *Vesuvius* and *white shot* silk.

Mus.D.—Rich scarlet *cloth*, with rich *white* corded silk lining.

Mus.B.—Scarlet *silk*, with *white* silk lining, edged with *white* fur.

The full Academic Dress for Doctors is a Gown of superfine Scarlet Cloth, loose sleeves, the cape and facings down the front covered, and the sleeves lined, with rich silk of the colour proper to the Degree. Birretum of black silk velvet.

## REGULATIONS OF UNIVERSITY COURT.

### I.—ABSENCE OF PROFESSORS.

1. When any Professor shall be prevented from teaching his Class for more than three successive days, an arrangement shall be made for his Class being taught in his absence ; and such arrangement shall be intimated to the Dean of his Faculty.

2. When any Professor has reason to expect that the demands of his Profession may involve absence from duty for more than four days in all in the course of a Session, an arrangement similar to that in Regulation 1 shall be made and intimated to the Dean of his Faculty.

3. No arrangement for teaching a Class in absence of the Professor shall continue longer than one week without the sanction of the Senatus Academicus ; or, if there be no sufficiently early meeting of the Senatus, without the *interim* sanction of the Principal and Deans Committee.

4. When any Professor shall contemplate an absence from duty of

more than one week, it shall be necessary for him to obtain the sanction of the Senatus for such absence, and for the arrangements for teaching his Class; and if his contemplated absence extend to four weeks or upwards, the sanction of the Senatus shall require the confirmation of the University Court.

5. No Professor shall employ any one other than a Colleague or University Assistant to teach his Class for him, without obtaining the sanction of his Faculty; and such sanction shall be communicated to the Senatus at its first meeting thereafter.

6. The Statement of the arrangements for teaching a Class in the absence of the Professor, submitted to the authorities of the University, shall specify the remuneration proposed to be given to the Professor's Substitute.

## II.—ABSENCE OF EXAMINERS.

1. Any University Examiner who finds himself prevented from being present at any Examination at which it is his duty to act, shall intimate this to the Dean or other Chairman of his Examining Board, who, on receiving such intimation, or otherwise becoming aware of the absence of the Examiner, shall, if possible, appoint a properly qualified Substitute to act for such Examiner.

2. In every case in which a person is appointed to act as Substitute for a University Examiner, and in which his Faculty, or Examining Committee, shall consider it necessary that the Substitute shall receive remuneration, the rate of remuneration to be paid by the Examiner (whether a Professor or Additional Examiner) to his Substitute shall be fixed by the Faculty, or Examining Committee, and shall be based upon the amount of the Fees payable to the Additional Examiners attached to the Faculty or Examining Committee.

3. All absences of University Examiners, their duration and cause, and the relative arrangements made, shall be immediately reported for approval to the Senatus Academicus by the Chairman of the Board to which the absent Examiner is attached; and a similar Report shall in every case of the absence of a University Examiner be made by the Senatus Academicus to the University Court; provided always that such arrangements shall receive immediate effect when circumstances do not permit the previous approval of the Senatus Academicus to be obtained.

4. In every case in which a Professor shall apply for leave of absence from his duties generally, provision shall be made, under the existing Regulations regarding leave of absence to Professors, for the performance of his duties as Examiner, as well as for the performance of his duties as Teacher; and provision shall be made for the remuneration of his Substitute in both capacities.

## III.—APPLICATIONS FOR ADDITIONAL (OR NON-PROFESSORIAL) EXAMINERSHIPS IN THE UNIVERSITY.

1. Applicants should lodge twenty copies of their applications (one

of which should be signed), and twenty copies of any testimonials they may desire to present, with the Secretary of the Court, not later than one week before the day fixed for making appointments in each case.

2. Applicants who send in testimonials must not send more than four for any one appointment.

3. Persons may be appointed to examine in two of the thirteen Subjects of the Examinations for Graduation in Medicine, but not more, and not in more than one Subject in any one Division of the Examinations.

4. Every applicant for an appointment in Divinity must hold the degree of B.D. from a Scottish University.

Every applicant for an Examinership in Law must be a Bachelor of Laws of a Scottish University.

#### IV.—OPENING OF NEW CLASSES.

No class in addition to those existing in the University shall at any time be opened,—whether for the purpose of dividing the course on a subject necessary for graduation, or for teaching a class not requisite for graduation,—without the approval of the Senatus and the sanction of the University Court.

#### V.—RECOGNITION OF EXTRA-ACADEMICAL TEACHERS.

1. Every applicant for recognition shall furnish for the information of the Authorities of the University :—

- (1.) A Statement of his Registered Qualification or Qualifications, and of the name of the Office, or Appointment (if any) which he holds, as a Teacher of the Subject in which he requests recognition.
- (2.) A Syllabus of his Course of Lectures; or, in the case of a Practical Class, information of a similar kind.
- (3.) A Statement of the number of Lectures, and of the number of Written or Oral Examinations in the Course; or, in the case of a Practical Class, information of a similar kind.
- (4.) A Short Description of his Accommodation for a Class; and of the Apparatus, Illustrative Specimens, Diagrams, and other appliances, at his disposal for teaching the Subject in which he desires recognition.
- (5.) A Statement of his opportunities of studying the Subject, and of the length of time devoted thereto.
- (6.) A Statement of the experience he has had in teaching the Subject.
- (7.) A Note of the Titles of his published Contributions to the Science of the Subject.
- (8.) A Statement as to whether his Course or Courses of Instruction have been already recognised by any University or other examining body, and, if so, what means were adopted for ascertaining his qualifications for teaching.

2. In the case of every Applicant for recognition residing in Edin-



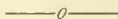
burgh or its neighbourhood, an inspection shall be made of his teaching Appliances and Accommodation for teaching.

3. Every recognised Extra-Academical Teacher shall annually furnish the University with the information regarding his Course or Courses which is required from the University Professors as to (1.) The number of Students attending the recognised Course or Courses of Instruction ; (2.) The number of meetings for ordinary Class Work in the Session, and in each week thereof ; (3.) The number of Special Written Examinations ; (4.) The system of conducting the ordinary Class Work, and the number of meetings devoted to each kind of work.

4. The Certificate of Attendance granted to Students by recognised Extra-Academical Teachers, should, in all cases, state the duration of the Course and the number of Meetings for Systematic, Tutorial, and Practical Instruction, respectively ; the number of occasions on which attendance was ascertained, and the number of those occasions on which the Student was present ; and the number of Class Examinations held during the Course, and whether or not the Student has taken a satisfactory part in the work of the Course, including the Class Examinations, if any. The Certificate should also state the general scope of the Course ; and, in particular, in the case of Chemistry, that the Course included Organic as well as Inorganic Chemistry ; in the case of Midwifery, that it included the diseases of Women and Children ; and, in the case of Practical Materia Medica, that it included Pharmacognosy, Pharmacy, Dispensing, and the writing of Prescriptions.

5. When application is made for the recognition of a Course taught by two or more Teachers in conjunction, information shall be given of the share to be taken by each Teacher in such conjoined Course ; and the recognition of such conjoined Courses, and of each of the persons recognised as Teachers of a conjoined Course shall, *ipso facto*, terminate should one or more of the Teachers cease to conduct the Course, or should any material change be made in the share of each Teacher in the teaching of the conjoined Course.

6. The recognition of any Teacher who fails to furnish the information called for in Section 3, or an explanation relative to such failure ; or who has ceased for the period of two consecutive Sessions to teach the subject on which he is recognised, shall, *ipso facto*, terminate.



## University Buildings.

THE University Buildings at present consist of: (1) The College, or University (Old) Building, with Dome, in South Bridge Street ; (2) The New Buildings (School of Medicine), Teviot Place ; and (3) The Music Class Room, Park Place.

## I.—THE UNIVERSITY (OLD) BUILDING.

The Old Building, on the site of "Kirk o' Field," the scene of the murder of Darnley, contains the Library and Reading Rooms; the Class Rooms of the Faculties of Arts, Divinity, and Law, the Natural History, and some other Science Class Rooms; the Theological Library and Reading Room; the Examination Hall; the Physical, and the Geological and Petrological Laboratories; the Fulton Engineering Laboratory; the Physical, Geological, Fine Art, and Natural History Museums; the Senate Hall, University Court Room, and the Offices of the Senatus, the Court, and the Students' Representative Council.

The work of teaching began in 1583, but before the end of the eighteenth century, the professors and students had been very imperfectly housed. In a Memorial, dated 1768, Principal Robertson complains that the buildings, "poor in themselves, seem not to have been carried on according to any regular plan, such as takes place in other academical structures which have been erected on more opulent foundations; and hence the whole fabric has a mean, irregular, and contemptible appearance." At that time the number of students was between six and seven hundred, and that of professors twenty-one.

Twenty years later a writer in the "Scots Magazine" complains that "in 1788 the buildings of the University are in the same ruinous condition that they were in in 1768, and the most celebrated University at present in Europe is the worst accommodated." A scheme for rebuilding, often discussed, was now taken up seriously by the Town Council, encouraged by promise of liberal aid from Government. A plan was obtained from Robert Adam, then at the height of his reputation, and the foundation stone of "the New College of Edinburgh" was solemnly laid on 16th November 1789.

Adam's original plans, preserved in the Soane Museum in London, divide the space now occupied by the College buildings into two quadrangles, a smaller to the east, entered as now from South Bridge Street, and a larger beyond it to the west, with a block of academic buildings lying between. This arrangement was doubtless suggested by the rapid rise of the

ground from north-east to south-west. Round these two courts there were to be Class Rooms, Museums, a Library, and also houses for the Principal and Professors. The western side of the larger court was to be occupied by a Graduation Hall and Chapel; and the great quadrangle was to be flanked with corridors, affording communication between the class-rooms. The building, begun chiefly on the eastern and northern sides, was, however, soon stopped by the death of the architect in 1792, and by failure of funds. In 1815 a Government Commission was appointed to collect funds and to carry out the undertaking, though in a modified form. They invited plans "for finishing the College of Edinburgh, on a reduced scale, leaving out the south front, and the cross building, which formed the small court in the original plan,—regard being always had to the part already executed, and to the preservation of the architecture of Mr Adam, as far as practicable." Out of nine sets of plans sent in, those of William Henry Playfair were selected, and under his superintendence the work was practically completed in 1828, at a total cost of about £161,000.

The general character of the whole design is due to Robert Adam. Some portions were erected by him, or completed after his death from his drawings. In other parts some modification of his plans and elevations was necessary, while a third portion had to be designed anew by Playfair, who was careful to conform to Mr Adam's design. The handsome eastern façade, with its monolithic columns 22 feet in height, was erected by Adam, who intended to have embellished it with a certain amount of sculpture. He also erected the north-west corner of the great court, of which the circular Loggie form an admired feature, carried out part of the north side, and began the western block. Playfair threw the two courts into one, and designed the north and south interior elevations anew. In the western block he adhered to Adam's designs; but the interior treatment of the block, fitted up for the Natural History Museums, is his own; and the "Upper Museum," now the Natural History Laboratory, is a good specimen of his style. The "circular corners" designed by Adam for his great court

were retained by Playfair for his single quadrangle. On the exterior, the north front is Adam's, and its plainness is due to the fact that only a narrow lane instead of the broad Chambers Street then bounded the College on that side. Adam's handsome design for the south front was simplified by Playfair, but is still superior to the north elevation.

The difficulty of the levels in the quadrangle was satisfactorily overcome by Playfair by surrounding the court with a terrace, which affords a suitable architectural base for the noble buildings rising above it. But Playfair's great achievement is the Library Hall, a fine gallery 185 feet by 54 feet, with an arched ceiling enriched with cassettes.

The general effect of the buildings is simple and dignified. The material is mainly Craigleith stone, and the detail carving is well worked out. The single quadrangle, measuring 242 feet 6 inches from east to west, by 134 feet from north to south, is a great improvement on the original plan of 1789, though the essentials of the design are due to Adam. The interior elevations of the quadrangle, especially on the west, and the eastern front to South Bridge Street, may safely be pronounced excellent specimens of the neo-classic style.

#### THE DOME.

Adam's original design provided for a Dome over the eastern portal, but as his sketch was not very pleasing, no steps were taken to carry out this feature until 1883, when funds came into the possession of the University, bequeathed for this purpose by Robert Cox, Esq., W.S. It was then determined to carry out the Dome on a new design by R. Rowand Anderson, LL.D., Architect of the University New Buildings (School of Medicine). The present Dome, though less purely classical than the Adam-Playfair building, is pleasing and effective. An admirable finial is formed by a vigorous and athletic figure of Youth, bearing the torch of Knowledge, executed in bronze by John Hutchison, Esq., R.S.A. The Dome now contains the Fine Art Museum.

## II.—THE UNIVERSITY NEW BUILDINGS.

### (SCHOOL OF MEDICINE.)

In 1869 the number of students had risen to fifteen hundred,

and that of the Professors to thirty-three, while there were seventeen Class Rooms only for their use. A Committee was therefore formed in 1873, and an appeal was made to the public for subscriptions for the purchase of a site for and the erection of complete Class Rooms, Theatres, Laboratories, and Museums for the Faculty of Medicine ; for reorganising the Class Rooms in the Old Building for the Faculties of Arts, Divinity, and Law ; for providing better accommodation for the Library ; for erecting a Hall for examinations and academic ceremonies ; and for improving the north front of the College building.

This appeal to the public yielded a sum of £148,548, 2s. 5d., which, with a grant of £80,000 from Government, and interest, rents, &c., amounted to £244,587, 4s. 8d.

These buildings (the University New Buildings), begun in 1878, were partly opened for teaching purposes in October 1880, and after their completion, were transferred by the Committee to the University in October 1888. They are situated on a site formerly covered by Teviot Row, Park Street, and Park Place, and were designed by R. Rowand Anderson, LL.D., Architect, and completed under his supervision.

They contain the Lecture Rooms, &c., of the Faculty of Medicine (excepting those of Botany and Natural History), the Museums of Practice of Physic, Anatomy, Chemistry, Obstetrics, Materia Medica, and Surgery ; a Students' Reading Room, Students' Common Room, Faculty of Medicine Reception and Reading Rooms, and Office of the Faculty.

The style of architecture is Italian of the Cinque-Cento period, intermediate between the Gothic and the stiff Palladian work, which aims at a mere manipulation of the five orders. The main frontage presents a slightly projecting elevation, pierced by the archway which forms the principal entrance. Over the arch is an ornate window, flanked by pilasters, between which are niches for statuary ; and the whole is surmounted by a bold semi-circular pediment, intended to be occupied with sculpture. The façade is three storeys in height except in the projecting west wing, which has an additional floor. On the ground floor the windows are square. Above these runs a well-marked string-course orna-



mented with dentils. The first-floor windows are round-headed and furnished with architraves. Next comes a broad frieze relieved at intervals with circular panels. Over this the string-course is repeated ; and the upper-floor windows are separated by pilasters, and divided by shafts supporting circular tracery. The wall is finished at the top with architrave, frieze, and cornice, and crowned with a low-pitched roof. The external features have of course been influenced by the internal arrangements.

### THE M'EWAN HALL.

In the month of November 1885, the Acting Committee for the University of Edinburgh Buildings Extension Scheme, resolved to apply to Parliament for power to acquire property adjoining the University as a site for a University Hall. Certain members of the Committee were incorporated as Trustees for this purpose, and one of their number, Mr William M'Ewan, M.P., munificently offered to contribute the sum required for the erection of the Hall, on condition that the cost of the site was provided from other sources. A Parliamentary grant of £8000 was obtained, and Mr M'Ewan having generously provided the balance required, the site was purchased. The erection of the "M'Ewan Hall," so named by the *Senatus Academicus* in grateful recognition of the Donor, was begun in 1888 and finished in 1897, from the designs and under the superintendence of R. Rowand Anderson, LL.D. The total cost of the Hall including the extensive scheme of mural painting executed by Mr William M. Palin, and the Grand Electric Organ, was about £115,000, and as an architectural monument it is not excelled by any Academic building in the country.

The Hall is of theatre form, and the external elevation conforms to the architectural style of the early Italian Renaissance adopted in the other University New Buildings. It is capable of holding upwards of 2600 people, and is used for Academic Ceremonials, Concerts of a high-class, and other functions approved by the University Court.

## III.—REID SCHOOL OF MUSIC.

The School of Music, situated immediately to the south-east of the University New Buildings, was built in 1858, from the designs of the late David Cousin. It contains the Music Class Room, with an organ of four manuals and sixty-six stops, in a handsome carved oak case; and a Museum of interesting acoustic and antique musical instruments.

The architecture of the building is in the Italian Renaissance style of the early part of the sixteenth century.

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## University Library.

## LIBRARY COMMITTEE.

THE Library Committee consists of not more than seven members, not being members of the Senatus, appointed by the University Court, and of such number appointed by the Senatus as shall be double the number appointed by the Court. The Committee is charged with the superintendence of the Library, and of any libraries acquired, or to be acquired, for the use of the University. The members of the Committee are appointed by the University Court and the Senatus respectively at their first meeting in the Winter Session.

Principal Sir WILLIAM MUIR,	} <i>Joint Chairmen.</i>
Sir THOMAS CLARK, Bart.,	
Professor EGGEING,	} <i>Joint Conveners.</i>
J. BURGESS, C.I.E., LL.D.,	

Professor Baldwin Brown; Professor Crum Brown; James Taylor Brown, Esq., LL.D.; Professor Cossar Ewart; Professor Flint; Rev. Edward F. Hoernle, M.B.; A. Taylor Innes, Esq., M.A.; Professor Kirkpatrick; Professor Lodge; Thomas M'Kie, Esq.; Professor Mackinnon; Professor Niecks; Professor Patrick; Professor Saintsbury; Professor Simpson; Professor Schäfer; John Anthony Trail, LL.B.

In 1580 Mr Clement Littil or Little left his books to "Edinbvrgh and Kirk of God thair to reman." This collection of about 300 volumes, chiefly theological (see list in *Miscellany of the Maitland Club*, vol. i., 1834), was transferred by the Town

Council to the University, and became the nucleus of the University Library.

The celebrated Poet, Drummond of Hawthornden, bequeathed his library to the University in 1627—a valuable gift, both from the eminence of the donor, and the rare specimens of early literature it embraces (see *Auctarium Bibliothecæ Edinburgensæ*, 1627).

Among noteworthy donors are Principal Adamson; Dr Robert Johnston, a physician in London; the Rev. James Nairne of Wemyss, in Fife; Dr John Stevenson, Professor of Logic and Metaphysics in the University; and Dr William Thomson, Professor of Anatomy in the University of Oxford. In 1872, Mr J. O. Halliwell, the eminent Shakespearean critic, presented his very valuable collection of works relating to Shakespeare. In 1875 a large collection of Persian and Arabic MSS. was presented by Mr J. B. Baillie of Leys; in 1879 an extensive collection of MSS. was received from the executors of David Laing, LL.D.; in 1880 the works on Economic Science collected by Professor Hodgson were presented by Mrs Hodgson; in 1882 valuable works on Sanskrit Literature were presented by the family of Dr John Muir; and in 1886 Mr Thomas Stratton bequeathed 110 works bearing on the study of Celtic. In 1889 Sir William Mackinnon, Balinakill, purchased the books of Dr Cameron of Brodick, an eminent Celtic scholar, for £600, for presentation to the University; and the same year the Library received a collection of MS. Shakespeariana from Mr Halliwell-Phillipps, and a number of books belonging to the late Professor Wilson, from Mrs Wilson. A “Lorimer Collection,” in memory of the late Professor Lorimer, was presented by his son-in-law, Sir David P. Chalmers. In 1895 Professor Blackie left to the Library his collection of modern Greek books; and important additions were received from the Goodsir bequest, and from Major Sprot, as representative of the late Dr Cleghorn of Stravithie. In 1898 Sir William Fraser left a very handsome legacy to the Library, putting it for the first time since the General Reid Bequest ceased to be separately administered, in possession of funds of its own.

The Library contains about 208,000 printed volumes, and about 7500 MSS., many of which are of great value.

The University also possesses a number of valuable pictures and busts, which adorn the Library and the Senate Hall.

The Library Hall, and the suite of rooms connected with it, occupy the south side of the quadrangle (Old Buildings).

In 1895 the following Library Regulations were laid down by Ordinance (No. 64) :—

I. The Librarian shall have the ordinary management of the Library of the University, subject to the superintendence of the Library Committee appointed under the provisions of Ordinance No. 8 [St Andrews, Aberdeen, and Edinburgh, No. 1,—Libraries and Museums].

II. The Librarian, and such Assistant-Librarians as the University Court, on the report of the Library Committee, may think necessary, shall be appointed by the University Court. The University Court shall also have the power of suspending or dismissing such Librarian and Assistant-Librarians.

III. All books ordered for the Library by the Library Committee shall be sent direct to the Librarian, and all books received by him shall be forthwith catalogued by him in such manner as the Library Committee may direct, and stamped with the Library stamp; and no person shall be allowed to use or borrow any book until it has been entered in the catalogue and stamped.

IV. The Librarian shall, with the approval of the Library Committee, from time to time prepare a list of such books, manuscripts, and other works as cannot, in consequence of any deed of gift or otherwise, be lent out of the Library; and the Library Committee shall from time to time make such regulations as they shall think expedient for allowing access to such works for consultation.

V. Manuscripts, rare books, works of reference, and such other works as the Library Committee shall determine, shall not be lent out of the Library, except under regulations to be made by the Library Committee and approved by the Senatus Academicus and the University Court; and, in addition to such general regulations, the Library Committee may, in each individual case of borrowing such works, impose such special conditions as they may think necessary or expedient: Provided always that every such special permission and all such additional conditions imposed by the Library Committee shall be entered in the Minute-Book of the Committee.

VI. It shall be in the power of the Librarian at any time to withdraw any work from circulation, subject to appeal to the Library Committee.

VII. It shall be in the power of the University Court, after consultation with the Senatus Academicus, and on the report of the Library Committee, to sell or exchange such works as they consider it in the best interests of the Library to dispose of.

VIII. A general inspection of the Library shall take place at such times and during such periods as the University Court, on the report of the Library Committee, shall determine, and all works whatsoever, and by whomsoever borrowed, shall be returned to the Library before the commencement of such periods, under a penalty previously fixed and publicly notified by the University Court.

IX. The Library Committee shall frame regulations to be approved by the University Court, under which the persons hereinafter mentioned may respectively

borrow or consult books. Such regulations shall prescribe, *inter alia*, (a) the number of books which the said persons shall be entitled to borrow; (b) the period for which they shall be allowed to retain them; (c) the penalties to be imposed in the event of their failure to return books in due time, or in the event of books being lost or injured.

The persons entitled to borrow books shall be :—

1. Members of the Senatus Academicus and University Lecturers.
2. University Assistants and Examiners.
3. The Librarian and Assistant-Librarians.
4. Matriculated Students.
5. Extra-academical Teachers, recognised by the University Court, in the town in which the University is situated.
6. Students enrolled in any Scottish University as attending the lectures of extra-academical teachers in the town in which the University is situated, and who are already entitled by Ordinance to the use of the Library.
7. Persons who have retired or who shall hereafter retire from the office of Principal or Professor.
8. Members of the University Court.
9. Members of the General Council.

Provided that no member of the University Court or of the General Council shall be entitled to obtain from the University Library books required by the Teachers or Students of the University in the prosecution of academic work and research, and that it shall be in the discretion of the Librarian, subject to appeal to the Library Committee, to decide from time to time what books are so required.

In fixing the number of books to be borrowed by the aforementioned persons respectively, due regard shall be had to the preferable claims of those engaged in teaching and studying in the University.

X. Members of the General Council shall be required, as a condition of exercising the privilege of borrowing books, to pay such subscription as the University Court shall fix from time to time.

XI. The University Court shall determine what sum, if any, shall be deposited by those entitled to borrow books.

- XII. The Library Committee, with the approval of the University Court, may admit to the use of the Library, upon such conditions as to subscription and otherwise as they may require, members of the General Council of other Scottish Universities and Graduates of the University who, by reason of being under the age of twenty-one years, are not qualified to be members of the General Council.

XIII. It shall be in the power of the Library Committee from time to time to grant the use of the Library to such extent and on such conditions as they shall think expedient to persons who may not be members of the University, for purposes of literary research, and the names of those privileged readers shall be reported annually to the University Court.

XIV. So long as any Library subscription or any fine incurred remains unpaid, and so long as any person continues in possession of a book which he is not entitled to retain, the right of the defaulter to the use of the Library shall be suspended and remain in abeyance.

XV. The Library Committee shall, in an annual report to the Senatus Academicus, furnish information as to :



1. The state in which the borrowing registers are kept, and whether there is in use any finding list or other means for facilitating the recall of books.
2. The condition of the various catalogues, whether they are brought up to date or not; the amount of arrears, if any, of the cataloguing of the titles of current acquisitions; and what portions of the Library, if any, remain uncatalogued.
3. The amount of money spent in the purchase of books and periodicals respectively, and how the expenditure has been distributed among the several departments of literature and science.

XVI. At such time as shall be fixed by the *Senatus Academicus* the Librarian shall report to the *Senatus* in reference to the year then ended :

1. The particulars of every case of admission to special reading privileges.
2. The particulars of every case in which the right to the use of the Library has been suspended or is in abeyance.
3. Every case in which a book belonging to the Library has been replaced at the expense of a borrower.
4. The titles of all books belonging to the Library, known to have been lost or seriously injured, or found at the time of inspection to be amissing.
5. The titles of all books entered as missing in previous reports which have been recovered.
6. The number of accessions to the Library acquired by purchase and received in donation respectively.
7. Any other matter which the Librarian may think it of importance to bring under the notice of the *Senatus Academicus*, or which he may be directed by the Library Committee to report.

The *Senatus Academicus* shall forward the report to the University Court.

XVII. Ordinances numbered 68 and 89 of the Commissioners under the Universities (Scotland) Act, 1858, are hereby repealed, provided that the regulations therein contained shall continue to be in force in each University until new regulations have been framed by the Library Committee, and approved by the University Court under the provisions of this Ordinance.

## SUPPLEMENTARY REGULATIONS UNDER ORDINANCE 64, XVII.

I. The Library is open on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays, from 10 A.M. to 4 P.M. during the Winter Session ; from 10 A.M. to 3 P.M. during the summer and autumn ; and on Saturdays from 10 A.M. to 1 P.M. throughout the year ; with the following exceptions :—

During the Christmas Vacation and the month of August the Library is open on the above-mentioned days (exclusive of Saturdays) from 10 A.M. to 1 P.M. only.

The Library is closed on Saturdays during the Christmas Vacation and the month of August ; on the Queen's Birthday, Christmas Day, New Year's Day, Good Friday, the Saturday before Easter, and the Edinburgh Spring and Autumn Holidays ; and (except for the return of books) during the Annual Inspection (see Regulation IX.).

II. Members of the undermentioned classes of readers may borrow from the Library and have out at one time, respectively, the number of books specified below, but no larger number (except as provided in Regulation VII.):

Members of Senatus and University Lecturers—25 vols.

Former Principals and Professors, Members of the University Court and the Library Committee, University Assistants, University Examiners, and the Librarian—10 vols.

Members of the General Council of any Scottish University, Graduates of Edinburgh University under the age of 21, and extra-academical teachers recognized by the University, on an annual payment of 10s. 6d., or a single payment of £5—5 vols. : on an annual payment of £1, 1s., or a single payment of £10—10 vols.

Assistant-Librarians and Clerks in University Offices (being of age)—5 vols.

III. No person shall be allowed to borrow books in more than one capacity.

IV. Subject to the provision as to the return of books before the Annual Inspection (Regulation X.), every member of the classes mentioned in Regulation II. is entitled to retain a book for one month : but this period may be prolonged until the time of the Annual Inspection, if the book is not otherwise required under Regulation VI. Provided that the Librarian may recall a book at any time, if required for class purposes.

V. Every Matriculated Student and every student enrolled as attending an extra-academical teacher in Edinburgh (under Ord. No. 16, Edinburgh, No. 1, Sect. viii., Sub-sect. 5) may borrow and have out at one time three volumes, but not more,

and may retain any book for two weeks ; but this period may be prolonged, with the permission of the Librarian, if the book is not otherwise required under Regulation VI. Provided that every such student, before borrowing a book for the first time in each academical year, must exhibit his Matriculation Ticket, and one Class Ticket, and deposit £1 at the Matriculation Office ; after which his name will be enrolled in the Library Books. Provided also that the Librarian may recall a book at any time, if required for class purposes.

VI. When a borrower has had a book out for a period (as determined by Regulations IV. and V.) of one month or two weeks, as the case may be, the Librarian may recall such book, if required by another person. If the book so recalled be not returned on or before the day specified on the notice of recall, the borrower shall be liable to a fine of one shilling per volume ; and to a further fine of sixpence per volume for every subsequent day so long as the book is not returned, until the total amount of the fine is equal to the sum for which the book can be replaced. Provided that, in the case of students, only half the above-mentioned fines shall be required, until the total amount is equal to the value of the book.

VII. In exceptional cases, the Library Committee may increase the number of books allowed by Regulations II., and V., or extend the periods fixed by Regulations IV. and V. ; provided that in every such case the additional number or period be specified, and entered in the Committee's minutes, and that the Committee may attach to the permission such conditions as it may deem advisable.

VIII. No book shall be given out except to the borrower in person, or to some one having written authority from him ; nor without the presentation of a Library Ticket, or a written request, signed by the borrower : and all books borrowed shall be entered immediately, with the date of borrowing, in the ledger or ledgers kept for the purpose.

IX. A General Inspection of the Library shall take place

annually during the month of April, and shall last for one week. During this period the Library shall be closed, except for the return of books.

X. All books, except as provided for by Regulation XI., must be returned to the Library before the commencement of the General Inspection, under a penalty of one shilling for every volume not returned. Notice of each book not so returned shall be sent forthwith by the Librarian to the borrower, requiring its return before the close of the Inspection ; and if the book or books so required be not returned on or before that date, the borrower shall be liable to a fine of sixpence a day for each volume so long as it is not returned, until the total amount of the fine is equal to the sum for which the book can be replaced. Provided that, in the case of students, only half the above fines shall be required, until the total amount is equal to the value of the book.

XI. In exceptional cases, the Library Committee may, before the commencement of the General Inspection, and on the written application of the borrower, give permission to keep out a book or books over one period of Inspection only, provided that the borrower sign a fresh ticket for them.

XII. All books returned to the Library, if not sent by rail or post, must be delivered, at the Library-counter, to the Librarian or one of the Assistant-Librarians ; and a receipt for books so returned shall be given if required.

XIII. Unbound numbers of periodicals shall remain for consultation in the Library during the first month after publication ; they may then be borrowed, but shall not be retained longer than fourteen days without the special permission of the Librarian.

XIV. Manuscripts, books, and other works contemplated under Ordinance 64, Section iv., are divided into two classes. Those in class (a) may be consulted with the permission of the Librarian, who shall report such permission to the Library Committee at their next meeting ; those in class (b) may not

be consulted without the leave of the Library Committee previously obtained. Works included in either class shall be consulted only in such parts of the Library as the Librarian shall determine.

XV. Manuscripts, books, and other works contemplated under Ordinance 64, Section v., are divided into two classes, viz. : (a) works of reference, (b) manuscripts and other works. Works comprised in class (a) may be lent out by the Librarian from the hour of closing to the next hour of opening (except during the Annual Inspection), subject to a penalty of two shillings a day per volume if not returned. Manuscripts and other works comprised in class (b) may be lent out by permission of the Library Committee only, subject to such conditions as the Committee may in each case determine. Provided that, in urgent cases, such works (not being manuscripts) may be provisionally lent out by the Librarian and two members of the Library Committee, subject to the approval of the Committee at their next meeting, and to such conditions as the Committee may in each case determine.

XVI. All fines shall be collected by the Librarian, and paid over by him to the Factor of the University. A report of names and amounts shall be made annually by the Librarian to the Library Committee. No fine shall in any case be remitted, except by order of the Library Committee, on sufficient cause shown.

XVII. No books or papers not belonging to the University shall be stored within the Library Building, without the special permission of the Library Committee.

XVIII. The use of matches or open lights, in any part of the Library Building, is strictly prohibited.

XIX. No persons except the Library Staff, not being actual or former members of the Senatus, University Lecturers, members of the University Court or of the Library Committee, or persons having permission under Regulation XIV., are allowed to enter or remain in any part of the Library Building beyond



the counter, except in the company of the Librarian or an Assistant - Librarian ; unless by special permission of the Library Committee, or (in urgent cases) of the Librarian and two members of the Committee, subject to the approval of the Committee at their next meeting.

XX. The Librarian shall report to the Library Committee, so soon as possible, all cases in which a book has been mutilated, disfigured by writing, or otherwise injured while in the possession of readers ; and offenders may be required to replace the injured book, or may be fined to an amount not exceeding the value of the book, or deprived of the privilege of using the Library, at the discretion of the Committee.

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*N.B.* —The word “book,” in the foregoing regulations, is to be taken as including manuscripts, pamphlets, bound or unbound periodicals, and other written or printed matter being the property of the University Library.

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## READING ROOMS.

### I. OLD BUILDINGS.

A separate collection of books is set apart for the use of Students.

Those wishing to consult books must insert in one of the slips provided for the purpose their Matriculation Number, Name and Residence, and the title of the Book, and present the slip to the Librarian in attendance.

Each slip will render the person who has signed it responsible for the book named. The counterfoil of the slip should, therefore, be reclaimed from the Librarian when the Book is returned, or whenever the Book applied for is not available.

Every volume must be returned by the borrower before leaving the Reading Room. Students are forbidden to leave the Books on the table ; they are required to hand them to the Librarian, and to get back the counterfoils. To prevent confusion, this should be done a few minutes before the close of each hour by those about to attend classes.

Besides the books in the Reading Room, each Student may consult in the Reading Room Two Volumes daily from the General Library : Provided he has handed in slips applying for them on the previous day, before 2 P.M. To such books the same rules will apply as to those consulted from the Reading Room.

No conversation or noise is permitted in the Reading Room.

The Librarian is responsible for the management of the Reading Room. Any difficulty that may arise must be referred to him, or, if necessary, through him to the Library Committee.

Students, on first applying for books in the Reading Room, must exhibit their Matriculation Tickets.

All books taken into the Room from the General Library shall be examined and returned to their place in the General Library each day. No books shall be issued from the General Library, for use in the Reading-Room, after 3.20 in Winter or 2.30 in Summer ; and all books from the General Library shall be given up in the Reading-Room at 3.45 in Winter and 2.45 in Summer.

The Reading-Room is available for either men or women Students. It is open daily, holidays excepted, during the Winter Session from 10 to 4 and from 8 to 10 P.M. ; Saturdays 10 to 1 ; and during the Summer Session from 10 to 3 ; Saturdays 10 to 1.

A Special Reading-Room is set apart for women students.

## II. NEW BUILDINGS.

In the New Buildings is a Students' Reading-Room containing Books of Reference for those attending the Classes in the Faculty of Medicine. The Regulations as to consulting Books are similar to those in the Reading-Room in the Old Buildings. It is open daily, during Sessions, from 9 A.M. to 5, and 8 to 10 P.M. ; Saturdays, 9 to 12. It is open in September and during the week in which the Spring Holiday occurs (Saturday excepted) from 10 to 1. It is closed during August and the Christmas vacation, and on holidays.

## THEOLOGICAL LIBRARY.

This Library, founded in 1698 for Students in Theology, contains above 10,000 volumes. The management is vested in

six Curators, chosen by ballot by the "Cives" of the Library from their own number. Students of Divinity of this or other Scottish University are admitted as Cives on paying: the former, two shillings and sixpence; the latter, five shillings, per annum. No one who, when a Student of Divinity in this University, failed to enter as a Civis, may afterwards do so until he has paid up the arrears of two shillings and sixpence for each year of his Theological Course in which he failed to pay. No Civis can be elected a Curator unless at least in the second year of his attendance at the Divinity Hall. The election takes place in the second week of December, one-third of the Curators going out annually by rotation. The Curators elect one of their own number to be Treasurer. The Curators and Treasurer report the state of the funds, &c., to the Cives, the Theological Faculty, and the Senatus. The books purchased are selected by the Curators, subject to the approval of the Faculty of Divinity. The Professor of Divinity, who is *ex officio* Honorary Librarian, annually appoints an acting Librarian. Books may not be kept out of the Library longer than two months.

#### SELLAR AND GOODHART CLASSICAL LIBRARY.

This Library was instituted by private subscription in October 1897, in memory of Professors Sellar and Goodhart. It is intended as a reading-room and library of reference for Students reading for Honours in Classics. It contains nearly 1000 volumes, and is managed by a Committee consisting of the Professors of Greek and Latin, the Assistants to the Professors, and five representatives elected by the Members.

Subscription for year, 6s.; for Winter Session, 5s.; for Summer Session, 3s.

#### HONOURS PHILOSOPHICAL LIBRARY.

This Library was instituted by private subscription in January 1897, along with libraries in connection with the ordinary classes of Logic and Moral Philosophy. It is used

both as a Lending Library and as a Library of Reference and is at present placed in a room adjoining the Moral Philosophy Class-room which is being prepared as a reading-room for Honours Students. It is managed by a Committee consisting of the Professors of Logic and Moral Philosophy, the Assistants to the Professors, and two representatives elected by the Honours Classes.

Subscription for year, 5s. ; for Winter or Summer Session, 3s.

### HISTORY LIBRARY.

This Library, founded by Professor Kirkpatrick in 1891, and greatly extended by a donation of £100 from Professor Tiele of Leyden, Gifford Lecturer in 1896-98, is open to Students in both the Ordinary and the Honours Classes in General and Constitutional History and Political Science. It is used mainly as a Library of Reference and a Reading-room, and is superintended by the Assistant in History.

### PHYSIOLOGY LIBRARY.

The late William Rutherford, M.D., Professor of Physiology or the Institutes of Medicine in the University from 1874 to 1899, bequeathed to the Senatus Academicus all his books and periodicals relating to Physiology and allied subjects, on condition that they should be deposited in the Physiological department of the University in charge of the Professor of Physiology.

It is proposed to continue the periodicals and to add to the Library by donation or otherwise as opportunity may occur. The books have been placed in a suitable room in the department of Physiology, which is used as a Library of Reference and Reading-Room for those who are engaged in Research work in Physiology : and the books may be consulted at any time on application to the Professor or to one of the assistants in the department who have special charge of the Library.

### MUSIC LIBRARY.

This Library of music and books on music owes its existence to bequests, donations, and especially the Reid Fund. Pro-

fessor John Thomson, Théophile Bucher, and the Scottish Musical Society may be mentioned as, next to General Reid, the chief benefactors. It is used as a Reference Library and Reading-Room, its management being in the hands of the Professor of Music.

PORTRAITS AND BUSTS IN THE SENATE HALL, LIBRARY, COURT ROOM, ANATOMICAL MUSEUM, MUSIC CLASS ROOM, AND DOME.<sup>1</sup>

### I. PORTRAITS.

There are twenty-seven Portraits of Benefactors, Principals, Professors, and others, by Raeburn, Sir John Watson Gordon, and other Artists, in the Senate Hall, four in the Library, sixteen in the University Court Room, and one in the Music Class Room.

#### *Portraits presented since 1890.*

##### In Senate Hall.

James Lorimer, M.A., LL.D., Dr Jur., Professor of Public Law (1862-1890).

Joseph Black, M.D., Professor of Chemistry and Medicine (1766-1795).

Lord Playfair, Professor of Chemistry (1858-1869), by Pickersgill, R.A., presented by the present Lord Playfair.

##### In Court Room.

General Sir Joseph Straton, Benefactor of the University.

John Wyllie, C.B., M.D., Physician General, Madras Army.

##### In Midwifery Retiring-Room.

Sir James Young Simpson, Bart., M.D., D.C.L., Professor of Midwifery (1840-1870), by Sir John Watson Gordon. Presented to Sir James by the poet Sydney Dobell.

### II. BUSTS.

There are forty Busts in the Upper Library Hall, two in the Anatomical Museum, and one in Room in Dome.

In order to honour and perpetuate the names of Benefactors who have founded Scholarships, Bursaries, or new Chairs in the University, the University authorities have made arrangements for placing their Busts or Portraits in the Library and University Court Room.

Regarding as Benefactors the eminent Professors who have elevated the character of the University by their writings or discoveries, the

<sup>1</sup> There is a separate printed Catalogue of the Portraits and Busts in the University, and of the Torrie Collection. A detailed Catalogue will also be found in the Calendar for 1890-91, p. 61, as well as in the previous Calendars.



University desires to procure Portraits or Busts of James and David Gregory, Colin Maclaurin, Matthew Stewart, Dr Cullen, Dr James Gregory, Dr Alison, Dr Chalmers, Sir Chas. Bell, Lord Woodhouselee, Dr Thos. Chas. Hope, Professors Ross, Macdougall, Muirhead, Sellar, Campbell Fraser, Sir Douglas MacLagan, Rutherford, and Sir Thomas Grainger Stewart.

*Busts presented since 1890.*

*In Library Hall.*

Rt. Hon. John Inglis, D.C.L., LL.D., Lord Justice-General, Chancellor of the University (1868-1891).

John Rae, M.D., LL.D., Arctic Explorer.

James Miller, M.D., LL.D., &c., Professor of Surgery in the University (1842-64).

John Goodsir, F.R.S., Professor of Anatomy in the University (1846-1867).

David Masson, M.A., LL.D., Professor of Rhetoric and English Literature (1865-95).

*In Students' Reading Room.*

Thomas Carlyle, Rector of the University (1865-1868).

*In Physiology Class-Room.*

William Rutherford, M.D., F.R.S., F.R.S.E., Professor of Physiology in the University (1874-1899), by John Hutchison, R.S.A., presented by Students of the Physiology Classes.

**TORRIE FINE ART COLLECTION.**

Sir James Erskine of Torrie, by a Will, dated April 1834, bequeathed to the University his Pictures, Bronzes, and Marbles, "for the purpose of laying a foundation for a GALLERY for the encouragement of the Fine Arts." The collection is at present temporarily deposited in the National Gallery until funds can be obtained for its suitable display in the College, and for carrying more fully into effect the intentions of the testator.

The Pictures, forty-five in number, include choice specimens of the works of different Masters, especially in the Flemish and Dutch Schools. The Marbles, seventeen in number, and twenty-three Bronzes, have been chosen with a correct appreciation of the merits of this department, and the whole collection reflects credit on the taste and public spirit of Sir James Erskine.

## Museums.

A MUSEUM COMMITTEE, consisting of three members, not being members of the Senatus, appointed by the University Court, and of six appointed by the Senatus, is charged with the superintendence of all Museums belonging to the University, and of any collections, furniture, or apparatus, or objects acquired for the use of the University or of any class therein. The members are appointed by the University Court and Senatus respectively at their first meeting in the Winter Session of each year.

*Members of Committee appointed by the University Court.*

Sir James Alexander Russell, M.A., M.B., C.M., B.Sc. ; Patrick Heron Watson, M.D. ; Joseph Bell, M.D.

*Appointed by the Senatus Academicus.*

Professors Sir William Turner, Tait, Geikie, Fraser, Greenfield, Schäfer.

Of the following Museums several belong partly or wholly to the Professors of the respective subjects :—

1. NATURAL PHILOSOPHY MUSEUM. A large and very valuable collection of physical apparatus, chiefly modern.

2. MUSIC AND MUSICAL INSTRUMENTS.—A very interesting and valuable collection of acoustic and musical instruments.

3. GEOLOGICAL MUSEUM.—For class purposes, showing the characters of minerals and rocks, and the typical fossils of the different geological systems.

4. FINE ART MUSEUM.—A small collection of casts, photographs, and drawings, in the Dome above the portal, illustrating the main points in the history of classical art.

5. MUSEUM OF THE ROYAL BOTANIC GARDEN. — This Museum is open to Students.

6. PHYSIOLOGICAL MUSEUM.—A large collection of Physiological Instruments, Microscopes and Microscopical Appliances, Diagrams, and Preparations.

7. PRACTICE OF PHYSIC MUSEUM.—Pathological specimens, drawings, models, diagrams, etc.

8. ANATOMICAL MUSEUM.—Founded in 1800 by Dr Monro, *secundus*, who presented his own Anatomical Collection, and that of his father, to the University, “to be used by his succe-

sors for the purpose of demonstrating and explaining to the Students the structure, physiology, and diseases of the human body." In 1859, Sir David Monro, M.D., presented a collection of anatomical preparations, formed by his father, Dr Alexander Monro, *tertius*. Numerous additions were also made by Professor Goodsir, especially in the department of Comparative Anatomy, on whose death the Senatus purchased his Private Museum, and added it to the Collection. The Museum now contains several thousand specimens in illustration of Human Anatomy, both normal and pathological, and of Comparative Anatomy.

The Conservator will gratefully receive contributions of rare and interesting specimens from Graduates and former Students. He is especially desirous of making the collection thoroughly representative of the osteology of the different Races of Men.

The Collection was transferred in 1884-5 to the University New Buildings in Teviot Place, where it is arranged in a large and handsome Hall with two galleries. It is open at certain hours to all matriculated students. The pathological collection occupies the upper gallery. The spirit-preparations in illustration of normal Human and Comparative Anatomy are arranged in the lower gallery. The osteological collection is disposed in the cases on the floor, and suspended in the centre of the Hall. In 1887 the Henderson Trustees committed to the custody of the Conservator their valuable collection of crania and casts.

Conservator of the Museum, the Professor of Anatomy ; Assistant-Conservator, Mr Alexander M. Osler.

9. CHEMISTRY MUSEUM. — Professor Playfair, afterwards Lord Playfair, on his resignation of the Chair of Chemistry, presented to the University the chemical substances he had used in illustrating his lectures. The collection has been increased by gifts from chemical manufacturers and others, and by substances prepared in the University Laboratory.

10. THE OBSTETRICAL MUSEUM, besides a few preparations left by Professor Hamilton, contains instruments, preparations, models, and diagrams, collected by Sir James Y. Simpson, and added to by the present Professor of Midwifery, to whom they belong.

11. THE MUSEUM OF NATURAL HISTORY. — The old Museum, established in 1812 in the University, contained Zoological, Geological, and Mineralogical Collections, formed chiefly by Professor Jameson, for fifty years Professor of Natural History

and Regius Keeper of the Museum. In 1854 it was transferred by the Town Council, then the Patrons of the University, to Government, and removed to the Natural History Department of the New Museum of Science and Art, where it is still accessible to Students of Natural History and Geology.

A Zoological Museum is now being formed in the University. Graduates and others interested will greatly aid in this important undertaking by presenting specimens to the Keeper—the Professor of Natural History.

12. MATERIA MEDICA MUSEUM.—One of the most complete collections of medicinal and food substances in this country, founded by Professor Andrew Duncan. His successor, Sir Robert Christison, added many valuable specimens, mounted for the most part by himself with singular neatness. The present Professor has made extensive additions. The Museum has been greatly enriched by interesting donations from former members of the Class in all parts of the world. There is also a Students' Reading Museum, containing specimens of the medicinal substances used in this country, formed and arranged by the present Professor.

13. SURGICAL MUSEUM.—This collection, formed by Professor Spence, has been largely extended by the present Professor, to whom it belongs. Many additions have been made, both of pathological preparations and of plaster and gelatine casts, illustrative of Surgical Anatomy and Pathology. A complete catalogue may, on application, be consulted by practitioners of medicine.

## ROYAL BOTANIC GARDEN AND ARBORETUM.

The Royal Botanic Garden, Inverleith Row, is connected with the University, in so far as the Professor of Botany delivers his Lectures in the Hall in the Garden.

The Garden is open daily. Specimens of plants for study are supplied to Students so far as practicable.

The Botanical Museum in the Garden is open to Students daily, and the University Herbarium, which is placed in the Garden, may be consulted between 10 and 1, and 2 and 5, under the direction of the Professor or the Curator.

The Botanical Laboratory in the Garden is open daily for work and original research.

# Faculty of Arts.

Dean.—PROFESSOR CHRYSTAL, LL.D.

*Students who do not intend to graduate in Arts may attend any of the Classes on payment of the Matriculation and the Class Fees, without having passed any Preliminary Examination. Those who wish their Classes to count for Graduation must pass the Preliminary Examination. The Classes in the Faculty are open to Women, except a few in which provision has not yet been made for teaching them. Provision has, however, been made to admit Women to Graduation in Arts who have received the requisite instruction at the Medical College for Women, Chambers Street, Edinburgh, or from Lecturers specially recognised for that purpose, in the subjects in which classes are not open to them in the University.*

*The classes will be opened as follows, and will meet daily (Saturdays excepted), unless otherwise stated. They will meet for the last time before the Christmas vacation on Friday, 21st December 1900: will re-assemble on Tuesday, 8th January 1901, and will be closed on Friday, 29th March 1901. The Annual Graduation Ceremonial in Arts, &c., will be held on Saturday, 13th April 1901.*

## Programme of Classes.

### WINTER SESSION, 1900-1901.

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
I.—DEPARTMENT OF LANGUAGE AND LITERATURE.			
Junior Latin.....	16 Oct., 9 o'cl. & also on Mon. & Wed. 11 o'cl.	Prof. Hardie	£ s. 3 3
Senior Latin <sup>2</sup> .....	16 Oct., 10 „		3 3
Honours Latin.....	18 Oct., 12 „		3 3
Junior Greek.....	16 Oct., 10 „ & also on Tues., Thurs., & Fri., 11 o'cl.	Prof. Butcher	3 3
Senior Greek <sup>2</sup> .....	16 Oct., 11 o'cl.		3 3
Honours Greek.....	18 Oct., 10 „		3 3
Classical Archaeology (Honours Course)	17 Oct., 1.30 <sup>3</sup> „	Prof. Baldwin Brown.....	3 3
English.....	16 Oct., 4 „		3 3
English Literature (Honours Course) <sup>4</sup>	17 Oct., 2 „ 9 Jan., 2 „	Prof. Saintsbury	3 3
English Language (Honours Course) <sup>4</sup>	19 Oct., 3 „ 9 Jan., 3 „		3 3
French (Pass) <sup>2</sup> .....	16 Oct., 3 „	G. Gregory Smith, M.A. Charles Sarolea, Ph.D., D.Litt.	3 3
French (Honours).. <sup>5</sup>	17 Oct., 4 „		3 3
Italian <sup>5</sup> .....	17 Oct., 5 „		3 3 <sup>6</sup>

<sup>1</sup> Fees for second, third, and subsequent attendances, see page 64.

<sup>2</sup> Students who wish to take the Classes of Senior Latin, Senior Greek, French or German, as qualifying for Graduation in Arts, must have previously passed in Latin (Higher Standard), Greek (Higher Standard), French, or German respectively, either as part of their Preliminary Examination or in addition thereto.

<sup>3</sup> The hour may be altered to suit the class.

<sup>4</sup> This Course may be divided into two Half-Courses. Fee for each, £2, 2s.

<sup>5</sup> An Honours Course may be given by Dr Sarolea.

<sup>6</sup> Five Shillings University entrance fee for Non-Matriculated Students. Payment of this fee does not entitle a Student to a Class Certificate nor confer any other University privilege.



## WINTER SESSION, 1900-1901—continued.

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
I.—DEPARTMENT OF LANGUAGE AND LITERATURE— <i>cont.</i> £ s.			
German (Pass) <sup>2</sup> .....	16 Oct., 4 o'cl. }	Otto Schlapp, Ph.D. }	3 3
German Prose Com- position ( <i>Wed.</i> ) <sup>3 12</sup> ..	17 Oct., 4 „ }		1 1 <sup>11</sup>
German <sup>3 4</sup> Lit. ( <i>Fri.</i> )...	19 Oct., 4 „ }		1 1 <sup>11</sup>
German (Honours) <sup>4</sup> ...	17 Oct., 3 „ }		3 3
German Adv. Prose Comp. ( <i>Wed.</i> ) <sup>3 4</sup> ....	17 Oct., 3 „ }	Prof. Eggeling }	1 1 <sup>11</sup>
Sanskrit (Junior Class),	17 Oct., 3 „ }		3 3
Do. (Senior Class) <sup>5</sup>	17 Oct., 4 „ }		3 3
Hebrew (Junior Class)	16 Oct., 1 „ }		3 3
Do. (Senior Class) <sup>5</sup>	23 Oct., 2 „ }	Prof. Kennedy.. }	3 3
Arabic <sup>5 6</sup> ( <i>Mon.</i> , <i>Wed.</i> , & <i>Fri.</i> ).....	24 Oct., 3 „ }		3 3
Syriac <sup>5</sup> ( <i>Tues.</i> & <i>Thurs.</i> ).....	23 Oct., 3 „ }		2 2
Celtic <sup>5</sup> .....	16 Oct., 4 „ }		2 2 <sup>7</sup>
Do. Advanced	22 Oct., 3 „ }	Prof. Mackinnon.. }	1 1 <sup>11</sup>
Gaelic Class .....	23 Oct., 3 „ }		1 1 <sup>11</sup>
II.—DEPARTMENT OF MENTAL PHILOSOPHY.			
Logic & Psychology.	16 Oct., 1 o'cl. }	Prof. A. S. Pringle Pattison.....	3 3
Metaphysics and Hist. of Philosophy (Honours Class)...	23 Oct., 4 „ }		2 2 <sup>7</sup>
Moral Philosophy.....	16 Oct., 2 „ }	Prof. James Seth {	3 3
Do. Honours Class...	24 Oct., 4 „ }		2 2 <sup>7</sup>
Political Economy <sup>9</sup> }	16 Oct., 5 „ }	Prof. Nicholson... {	3 3 <sup>8</sup>
Do. Honours Course }	18 Oct., 3 „ }		3 3 <sup>8</sup>
Education (Theory, History, & Art of) }	16 Oct., 12.10 „ }	Prof. Laurie.....	3 3
Philosophy of Law <sup>10</sup> (45 Class Meetings) }	16 Oct., 2 „ }	Prof. Sir Ludovic Grant, Bart... }	2 2
Natural Theology (Gifford Lecture- ship).....	Dates will be after- wards announced.	Prof. William James of Har- vard Univ..... }	Free.

<sup>1</sup> Fees for second, third, and subsequent attendances, see page 64.<sup>2</sup> See footnote 2, page 58.<sup>3</sup> Twenty Lectures may be taken as separate course.<sup>4</sup> Lectures given in German.<sup>5</sup> Students who wish to take the Classes of Sanskrit, Hebrew, Arabic, Syriac, or Celtic as qualifying for the M.A. Degree, must have previously passed a Preliminary Examination in these Languages equivalent in standard to the Examinations in Latin and Greek in the Preliminary Examination.<sup>6</sup> Half-Course qualifying for M.A. degree, see p. 78.<sup>7</sup> When taken as a Graduation Course, £3, 3s.<sup>8</sup> Or two Half-Courses, £2, 2s. each.<sup>9</sup> Course up to Christmas qualifies in Economics for the B.Sc. in Agriculture.<sup>10</sup> Half-Course.<sup>11</sup> See footnote 6, page 58.<sup>12</sup> Students must be at least 18 years of age.

## WINTER SESSION, 1900-1901—continued.

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
III.—DEPARTMENT OF SCIENCE.			£ s.
Junior Mathematics...	16 Oct., 12 o'cl.	Prof. Chrystal...	3 3
Senior Mathematics <sup>2,3</sup>	16 Oct., 9 ,,		3 3
Mathematics, Intermediate Honours..	17 Oct., 11 o'cl. (Mon., Wed., Fri.)		3 3
Do. (Advanced Honours) .....	17 Oct., 10 o'cl. (Mon., Wed., Fri.)		3 3
Natural Philosophy <sup>2</sup> ..	16 Oct., 11 o'cl.	Prof. Tait.....	3 3
Do. (Advanced Honours, Mon., Wed., Fri.).....	24 Oct., 12 ,,		3 3
Physical Laboratory..	24 Oct., 10 ,,		2 2
Natural Philosophy (Intermediate Honours, Mon., Wed., Fri.).....	17 Oct., 9 ,,	Cargill G. Knott, D.Sc.	3 3
Dynamics, Advanced Science (Mon., Wed., Fri.).....	17 Oct., 10 ,,		3 3
Astronomy (Mon., Tues. Wed. Thurs.)	17 Oct., 4 ,,	Prof. Copeland ..	3 3
Chemistry.....	16 Oct., 10 ,,	Prof. Crum Brown	4 4
Do. (Adv. Course, Tues. Wed. Thurs.)	8 Jan., 4 ,,		2 2
Practical Chemistry	26 Nov., 11&2,,	Prof. Ewart.....	3 3
Zoology <sup>4</sup> (Elementary)	16 Oct., 12 ,,		4 4

<sup>1</sup> For second, third, and subsequent attendances, see page 64.

<sup>2</sup> Students prior to attendance on the Class of Senior Mathematics or of Natural Philosophy as qualifying for Graduation in Arts, must have passed the Intermediate or Higher Standard Examination in Mathematics either as part of their Preliminary Examination or in addition thereto.

<sup>3</sup> The first half of the Winter Graduation Course up to Christmas qualifies as a First Half-Course in Mathematics, and the second half, from Christmas to the end of the Session, as a Second Half-Course. Any First Half-Course, along with any Second Half-Course, taken subsequently, qualifies as a full Course of Instruction for Graduation.

<sup>4</sup> With Practical Zoology, a full Course, but the whole Course must extend over at least 75 separate days. Any student whose attendance on the Elementary Course of Lectures and the Elementary Practical Class of Botany or Zoology does not entitle him to a full Certificate for Graduation in Arts, may make up the seventy-five attendances required on separate days, by attending twenty-five Lectures of any other Course in the Botanical or Zoological Department, as the case may be, without additional fee.

## WINTER SESSION, 1900-1901—continued.

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
III.—DEPARTMENT OF SCIENCE—continued.			£ s.
Practical Zoology } (Elementary).....	16 Oct., 11 o'cl. }	Prof. Ewart....	2 2 <sup>2</sup>
Advanced Zoological } Laboratory .....			...
Morphology of Ver- tebrates (with Lab.) }	17 Oct., 2 ,,	J. Beard, D.Sc....	3 3
Botany (Advanced) }	16 Oct., 11 ,,	Prof. Balfour..	2 2 <sup>3</sup>
Practical Botany } (Advanced) .....	17 Oct., 11 ,,		3 3 <sup>3</sup>
Geology.....	16 Oct., 4 ,,		4 4
Practical Geol. and Min. (Graduation Half-Course) up to Christmas .....	19 Oct., 2 ,,	Prof. Geikie...	2 2
IV.—DEPARTMENT OF HISTORY AND LAW.			
History (Honours : British Constitl., 1360-1517).....	16 Oct., 4 o'cl. { (Mon., Tu., Th.) }	Prof. Kirkpat- rick.....	3 3
History, British.....	16 Oct., 11 o'cl. }	Prof. Lodge....	3 3
History (Honours Course, History of Europe, 1610- 1715).....	17 Oct., 10 ,,		3 3
Constitutional Law and History <sup>4</sup> .....	16 Oct., 5 ,,	Prof. Kirkpatrick	4 4
Roman Law.....	16 Oct., 4 ,,	Prof. Mackin- tosh...	4 4 <sup>5</sup>
History of Roman Law (44 Class Meetings) <sup>6</sup> .....	... ..		2 2
Ecclesiastical History	23 Oct., 11 ,,	Prof. Taylor.....	3 3

<sup>1</sup> For second, third, and subsequent attendances, see page 64.<sup>2</sup> Besides charge of 10s. for Laboratory Expenses.<sup>3</sup> Besides Garden fee of 5s.<sup>4</sup> Qualifying both for Arts Graduation (as "History," under the Arts Ordinance, Sect. VII., 2 (b), or as an optional or additional subject) and for Law Graduation. Two Half-Courses.<sup>5</sup> Fee for Winter Session. For Winter and Summer, £5, 5s.<sup>6</sup> Half-Course.

## WINTER SESSION, 1900-1901—continued.

Classes.	Days and Hours.	Profs. and Lecturers.	Class Fees. <sup>1</sup>
IV.—DEPARTMENT OF HISTORY AND LAW—continued.			
			£ s.
Archæology and Art (History of).....	16 Oct., 3 o'cl.	Prof. Baldwin Brown .....	3 3
Classical Archæology (Honours Course, Three days a week)			
Public International Law (45 Class Meetings) <sup>2</sup> .....	17 Oct., 1.30 ,,	Prof. Sir Ludo- vic Grant, Bart. ....	3 3
European History, 1715-1848, Non- Graduation Course (Mon., Wed., Fri.)	8 Jan., 2 ,,	D. P. Heatley.....	2 2
	24 Oct., 11 ,,		2 2

## SUMMER SESSION, 1901.

The Classes will be opened as follows, and will be closed on Wednesday, 17th July.

Classes.	Days and Hours.	Profs. and Lecturers.	Class Fees. <sup>1</sup>
I. DEPARTMENT OF LANGUAGE AND LITERATURE.			
			£ s.
Senior Latin (Grada- tion Half-Course) <sup>3 4</sup>	1 May, 9 o'cl.	James Mill, M.A.	2 2
Honours Latin (Gra- duation Half-Course)			
Senior Greek (Grada- tion Half-Course) <sup>3 4</sup>	1 May, 10 ,,	Alexander W. Mair, M.A.	2 2
Honours Greek (Gra- duation Half-Course)			
English Literature (Honours Grada- tion Half-Course, Mon., Wed., & Fri.)	1 May, 12 ,,	G. Gregory Smith, M.A.	2 2
Sanskrit <sup>5</sup> .....	1 May, 3 ,,	Prof. Eggeling.....	3 3
II. DEPARTMENT OF MENTAL PHILOSOPHY.			
Ancient Philosophy (Honours Grada- tion Half-Course(A), Mon., Wed., & Fri.)	1 May, 11 o'cl.	R. P. Hardie, M.A.	2 2

<sup>1</sup> For second, third, and subsequent attendances, see page 64.

<sup>2</sup> Half-course.

<sup>3</sup> See footnote 2, page 58.

<sup>4</sup> The full course may be completed by attendance either for another Summer Session or for half a Winter Session.

<sup>5</sup> Class for Indian Civil Service Probationers.

## SUMMER SESSION, 1901—continued.

Classes.	Days and Hours.	Profs. and Lecturers.	Class Fees. <sup>1</sup>
II. DEPARTMENT OF MENTAL PHILOSOPHY— <i>continued.</i> £ s.			
Ancient Philosophy (Honours Graduation Half-Course (B), <i>Tues. and Thurs.</i> )..	2 May, 11 o'cl.	{ R. P. Hardie, M.A.	{ 2 2
Psychology (Honours Gradn. Half-Course, <i>(Mon., Wed., Fri.)</i> ...	1 May, 12 „	{ Henry Barker, M.A.	{ 2 2
Political Philosophy, <sup>8</sup> (Honours Graduation Half-Course).....	1 May, 11 „		
( <i>Mon., Wed., Fri.</i> )...			
III. DEPARTMENT OF SCIENCE.			
Senior Mathematics (First Graduation Half-Course) <sup>2</sup> .....	1 May, 11 o'cl.	{ Chas. Tweedie, M.A., B.Sc.	{ 2 2
Senior Mathematics (Second Graduation Half-Course) <sup>2</sup> .....	1 May, 12 „		
Honours Mathematics (Gradn. Half-Course)	1 May, 10 „		
Physical Laboratory.....	1 May, 10 „	{ Prof. Tait and Assistant.	{ 2 2
Physics ( <i>mainly for</i> <i>Students of Medicine</i> )	1 May, 12 „	Prof. Tait.	3 3
Elementary Dynamics...	1 May, 9 „	C. G. Knott, D.Sc.	2 2
Advanced Experi- mental Physics.....	1 May, 10 „	{ W. Peddie, D.Sc.	{ 2 2
Practical Chemistry .....	1 May, 2 „	{ Professor Crum Brown.	{ 3 3
Chemistry (Organic).....	1 May, 1 „		
Zoology (Elementary) <sup>3</sup> ...	1 May, 12 „	{ Prof. Ewart .....	{ 4 4
Do. (Elem. Pract.).....	1 May, <sup>4</sup> „		
Invertebrate Zoology.....	1 May, 2 „		
Do. (with Lab. work)			
Advanced Zoology (Comp. Morphol. of Invertebrata and Adv. Lab. Course)..	1 May, <sup>4</sup> „		
Natural History Labor.			6 6 <sup>5</sup>
Botany <sup>6</sup> .....	1 May, 8 „	Prof. Balfour ...	4 4 <sup>7</sup>

<sup>1</sup> Fees for second, third, and subsequent attendances, see page 64.<sup>2</sup> See footnotes 2 and 3, page 60.<sup>3</sup> See footnote 4, p. 60.<sup>4</sup> At hours to be arranged. <sup>5</sup> Besides charge of 10s. for Laboratory Expenses.<sup>6</sup> With Practical Botany a full Course, but the whole Course must extend over 75 separate days. See footnote 4, page 60.<sup>7</sup> Besides Garden Fee of 5s.<sup>8</sup> Honours Graduation Half-Course in Philosophy and also in Economic Science.



SUMMER SESSION, 1901—*continued.*

Classes.	Days and Hours.	Profs. and Lecturers.	Class Fees. <sup>1</sup>
III. DEPARTMENT OF SCIENCE— <i>continued.</i>			
Practical Botany.....	1 May, 9 o'cl.	Prof. Balfour ...	{ £ s. 2 2 <sup>2</sup>
Field Demonstrations on <i>Saturdays</i> .			
Geology (Graduation Half-Course, <i>Mon., Wed., Fri.</i> ).....	1 May, 4 ,,	Prof. Geikie....	{ 3 3
Field Demonstrations on <i>Saturdays</i> )			
IV. DEPARTMENT OF HISTORY AND LAW.			
Brit. Hist. (Gen. and Const.) 1066-1832, Non-Gradn. Course	1 May, 9 o'cl.	D. P. Heatley...	{ £ s. 2 2
Political Science (20 Lectures, Non-Graduation Course)....	2 May, 10 ,,		
			{ 1 1

## TUTORIAL CLASSES.

Classes.	Days and Hours.	University Assistants.	Class Fees <sup>1</sup>
Junior Latin (Preliminary Class).....	1 May, 12	James Mill, M.A. ....	£ s. d. 2 2 0
Junior Greek (Preliminary Class).....	1 May, 11	Alexander W. Mair, M.A.	2 2 0
Natural Philosophy (Advanced Honours).....	1 May, 9	William Peddie, D.Sc.	2 2 0
Formal Logic (Preliminary Class, Fifteen Lectures, Tues. and Thurs.).....	7 May, 12	R. P. Hardie, M.A.	1 1 0
Elementary Hebrew <sup>2</sup> ....	1 May, 10	{ Andrew Tweedie, M.A., B.D.	{ 1 11 6 2 2 0
Elementary Arabic....	1 May, 11		

## FEES FOR SECOND, THIRD, AND SUBSEQUENT ATTENDANCES.

1. *Ordinary Graduation Classes*:—(1) Second attendances on £4, 4s. Courses, £3, 3s.; third or subsequent attendances, £1, 1s. (2) Second attendances on £3, 3s. Courses, £2, 2s.; third or subsequent attendances, £1, 1s. (3) Ordinary Celtic Class, if not taken for Graduation, £2, 2s.; second or subsequent attendances, £1, 1s.

<sup>1</sup> Fees for second, third, and subsequent attendances, see above.

<sup>2</sup> Besides Garden Fee of 5s.

<sup>3</sup> To prepare Students for entering the Junior Class in Winter Session.

2. Second attendances on £2, 2s. Lecture Courses (not being Honours Half-Courses), £1, 11s. 6d.; third or subsequent attendances, £1, 1s.

3. When fee for first attendance is less than £2, 2s., no reduction for second or subsequent attendances.

4. *Honours Courses* :—(1.) *Full Honours* £3, 3s. *Courses*—Second attendances, no reduction; third or subsequent attendances, £2, 2s. (2.) *Half-Honours* £2, 2s. *Courses*—Second attendances, no reduction; third or subsequent attendances, £1, 1s.

5. No reduction for Laboratory or Practical Courses.

The following means are afforded for Practical Instruction :—

MATRICULATION, &c. See pages 27-29.

FIVE SHILLINGS UNIVERSITY ENTRANCE FEE—Classes to which applicable, pp. 29 and 30.

### LABORATORIES.

THE PHYSICAL LABORATORY, established with the view of affording Students a practical knowledge of the construction and use of physical apparatus, and the mode of conducting experimental inquiries, is open daily from 10 to 3, under the superintendence of Professor Tait.

THE ROYAL OBSERVATORY is open to Students of Astronomy on Friday evenings from 8 P.M.

For the CHEMICAL LABORATORIES, ZOOLOGICAL LABORATORIES, ROYAL BOTANIC GARDEN LABORATORY, GEOLOGICAL AND PETROLOGICAL LABORATORY, see Faculty of Science.

MUSEUMS. See pages 55-57.

## Courses of Lectures.<sup>1</sup>

1900-1901.

### I.—DEPARTMENT OF LANGUAGE AND LITERATURE.

HUMANITY—(Latin).

PROFESSOR HARDIE.

*Junior Class*—Taught by the Assistant, under supervision of the Professor: 9 to 10, five days a week, and Mondays and Wednesdays, 11 to 12. The work of the Class consists of—

1. Readings of some Latin author, such as Virgil, Horace, Ovid, or Tibullus, Livy, Sallust, and Cicero.

<sup>1</sup> The annual amount payable for Matriculation, Class Fees, &c., of the regular Course in Arts and Graduation Fee may be estimated at about £10, 10s.

2. Lectures on Roman History or Literature.
3. Exercises in Latin Prose Composition.
4. Translation of passages from Latin into English, and from English into Latin "at sight."
5. Written Examinations.

*Books recommended.*—Bradley's Arnold's Latin Prose. Allen's Second Latin Exercise Book. Pelham's or How and Leigh's Roman History. Wilkins' Primer of Roman Literature. Wilkins' Primer of Roman Antiquities.

During the Winter Session 1900-1901 the following books will be read :—Livy, Bk. XXXIV.; Virgil, *Aeneid* XI.; Cicero, *Pro Milone*.

*Senior Class*—10 to 11, five days a week.

This is the class which qualifies for the ordinary Degree of M.A.<sup>1</sup> The work of the Class consists of—

1. Readings of some Latin author, such as Virgil, Horace, Cicero, Tacitus.
2. Lectures on Roman History or Literature.
3. Weekly Exercises in Latin Prose.
4. Translation of Unseen Passages.
5. Written Examinations.
6. Latin Verse Composition (voluntary).

*Books recommended.*—Gildersleeve and Lodge's Latin Grammar; Lindsay's Historical Latin Grammar; Potts' Hints towards Latin Prose Composition; Pelham's Outlines of Roman History; How and Leigh's History of Rome; Capes' Early Empire; Cruttwell's History of Latin Literature; Mackail's Latin Literature; Companion to Latin Authors (Middleton and Mills); Rich's Dictionary of Antiquities.

During the Winter Session 1900-1901 the following books will be read :—Virgil, *Aen.* VI.; Horace, *Odes*, III., and *Epistles*, II.; Tacitus, *Annals*, IV.

*Third (Honours) Class*—12 to 1.

The Third (Honours) Latin Class meets four days a week. It

<sup>1</sup> See footnote 2, page 58.

is intended to assist the studies of Candidates for Scholarships and Graduation with Honours. The work consists of—

1. Readings and explanations of the more difficult Latin authors, such as Tacitus, Lucretius, Plautus, Martial, &c.
2. Lectures on Roman History and Literature, chiefly in connection with the Books read in the Class.
3. Composition, and Translation of Unseen Passages.
4. Occasional Critical Papers and Essays.
5. Written Examinations on the work done in the Class.

During the Winter Session 1900-1901 the following books will be read :—Plautus, *Rudens*; Horace, *Ars Poetica*; Lucretius, I.; Tacitus, *Histories*, I., II.

*Summer Session, 1901.*

JAMES MILL, M.A., *Lecturer.*

*Senior Class*—9 to 10, five days a week.

This class qualifies as a half-course for Graduation.<sup>1</sup> The work consists of—

1. The reading of the Latin authors prescribed for the Degree Examination in October 1901 and April 1902.
2. Lectures on Roman History or Literature.
3. Exercises in Latin Prose Composition.
4. Written Examinations on the work done in the Class.
5. Translation of passages from Latin into English, and from English into Latin “at sight.”

The full Course may be completed by attendance either for another Summer Session or for half a Winter Session.

*Third (Honours) Class*—10 to 11.

This Class, in the Summer Session, qualifies as a half-course for Graduation with Honours in Classics. It meets four days a week, and is intended to assist the studies of Candidates for Scholarships, for Graduation with Honours, and for the Indian Civil Service. The work consists of :—

1. Readings and explanations of some of the more difficult Latin authors, such as Tacitus, Lucretius, Plautus, Martial, Juvenal, Lucan, &c.

<sup>1</sup> See footnote 2, page 58.

2. Lectures on Roman History and Literature, chiefly in connection with the Books read in the Class.

3. Exercises in Latin Prose Composition.

4. Written Examinations on work done in the Class, and on subjects prescribed for voluntary reading.

During the Summer Session of 1901, the books read will be selected from the programmes of work for Honours Graduation in April 1902 and April 1903.

### *Tutorial Class.*

This Junior Class is intended for students preparing for the Preliminary Examination in October, and the work will be selected with that view. Special attention is directed to Latin Prose Composition, one exercise being done with the Class daily, and two written exercises done and corrected in each week.

## GREEK.

### PROFESSOR BUTCHER.

*Junior Class*—Taught by the Assistant, under supervision of the Professor : 10 to 11 o'clock, five days a week, and 11 to 12 on Tuesdays, Thursdays, and Fridays. The work consists of—

1. Readings of some Greek author, as Xenophon, Lucian, Plato (an easy dialogue), Homer, Euripides, or Aristophanes (selections).

2. Lectures on Greek History or Literature.

3. Exercises in Greek Prose Composition.

4. Translation of Unseen Passages.

5. Written Examinations.

*Books recommended.*—W. G. Rutherford's Greek Grammar, and First Greek Syntax ; Goodwin's Greek Grammar ; F. E. Thompson's Homeric Syntax ; Jebb's Primer of Greek Literature ; Fyffe's Primer of Greek History ; Oman's History of Greece, or Cox's General History of Greece, or W. Smith's Smaller History of Greece (new ed. 1897).



*Senior Class—II to 12, five days a week.*

This is the class which qualifies for the ordinary Degree of M.A.<sup>1</sup> The work consists of—

1. Readings of some Greek author, such as Thucydides, Demosthenes, Herodotus, Plato; Homer; a play of Aeschylus, Sophocles, Euripides, or Aristophanes.

2. Lectures on Greek Literature, History, or Philosophy.

3. Greek Prose Composition, or Translation of an Unseen Passage once a week, and a Lecture on the passage when the exercises are returned.

4. Written Examinations on the work done in the Class, and on subjects prescribed for voluntary reading.

5. Greek Verse Composition (voluntary).

*Books recommended.*—W. G. Rutherford's Greek Grammar, and First Greek Syntax; Monro's Homeric Grammar; Goodwin's Greek Grammar; Goodwin's Greek Moods and Tenses; Sidgwick's Greek Prose Composition; Jebb's Primer of Greek Literature; Müller and Donaldson's History of Greek Literature; Jevon's History of Greek Literature, or Mahaffy's History of Greek Literature, or Murray's Ancient Greek Literature; Holm's History of Greece (Translation, Macmillan); Oman's History of Greece, or Cox's General History of Greece, or W. Smith's Smaller History of Greece (new ed. 1897); Greek Verse Composition (Sidgwick and Morris); A Manual of Comparative Philology, by Giles.

During the Winter Session 1900-1901, the following books will be read :—Homer, *Iliad*, XIX., XX.; Plato, *Rep.* VI.

*Third (Honours) Class—10 to 11.*

This Class meets four days a week. It is intended to assist the studies of Candidates for Scholarships and Graduation with Honours. The work consists of—

1. Readings and explanations of some of the more difficult Greek authors, such as Thucydides, Demosthenes, Plato, Aristotle, Aeschylus, Pindar, &c.

<sup>1</sup> See footnote 2, page 58.

2. Lectures on Greek Literature, History, or Philosophy.
3. Greek Composition, and Translation of Unseen Passages.
4. Occasional Critical Papers and Essays.
5. Written Examinations on the work done in Class.

During the Winter Session 1900-1901 the chief work of the Class will be Thucyd., Bk. VII. ; Dem., *de Cor.*; Aristoph., *Vespae*.

*Summer Session, 1901.*

ALEXANDER W. MAIR, M.A., *Lecturer.*

*Senior Class—10 to 11, five days a week.*

This Class qualifies as a half-course for Graduation.<sup>1</sup> The work consists of—

1. The reading of the Greek authors prescribed for the Degree Examination in October 1901 and April 1902—Prometheus, *Vinctus* ; Thucyd., Book I.
2. Lectures on Greek History or Literature.
3. Greek Prose Composition, and Translation of Unseen Passages.
4. Written Examinations.

The full Course may be completed by attendance either for another Summer Session or for half a Winter Session.

*Third (Honours) Class—9 to 10.*

This Class meets four days a week. It is intended to assist the studies of Candidates for Scholarships, for Graduation with Honours, and for the Indian Civil Service. The work consists of—

1. The reading of books selected from the programme of work for Graduation with Honours in 1902 and 1903—Plato, *Phaedo*, and other books as may be arranged.
2. Lectures on Greek History or Literature.
3. Greek Prose Composition, and Translation of Unseen Passages.
4. Written Examinations.

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<sup>1</sup> See footnote 2, page 58.

This Class qualifies as a half-course for Graduation with Honours. The full Course may be completed by attendance either for another Summer Session or for half a Winter Session.

*Junior (Tutorial) Class*—11 to 12, five days a week.

This Class is intended for Students preparing for the Preliminary Examination in October next, and the work to be done will be selected with that view.

## CLASSICAL ARCHÆOLOGY.

PROFESSOR BALDWIN BROWN.

Classical Archæology may be taken as one of the optional subjects for Honours in Classics.

An Honours Course of fifty lectures will be delivered in the Winter Session, 1900-1901, in the Fine Art Class Room, on Mondays, Wednesdays, and Thursdays, at 1.30 P.M.<sup>1</sup>

Additional Class-meetings of a tutorial character will be held as often as is found desirable, at hours to be afterwards arranged. The treatment of the subject will embrace—

1. A general survey of the field of study.
2. An examination of the most important monuments of Greek Art and selected passages from ancient authors bearing on the History of the Arts in Classical times.
3. A study of the History of Greek Sculpture from the earliest times to the age of Augustus.

The text-books will be—Overbeck's "*Schriftquellen*" (a collection of passages from ancient authors bearing on Classical Art); Murray's "*Handbook of Greek Archæology*" (London, John Murray); E. Gardner's "*Handbook of Greek Sculpture*" (Macmillan & Co.).

The themes will be treated from the artistic standpoint, which is now more and more insisted on by writers on this subject. A high degree of accuracy and considerable acquaintance with the chief Greek and Latin authorities will be required of Candidates

<sup>1</sup> The Class days and hour may be changed if others are found more convenient.

for Honours, but no previous special knowledge either of Art or of Archæology will be expected of those joining the Class. The different branches, so far as time permits, will be opened up from the beginnings, and students will be assisted in the Tutorial Classes to understand technical terms and to appreciate the artistic points which come up for discussion in the Lectures. They will also have access at suitable times to the collection of illustrations referred to in the Lectures, and to the Class Library, which contains some of the standard works on the subject.

### ANCIENT PHILOSOPHY.

(See Department of Mental Philosophy.)

### RHETORIC AND ENGLISH LITERATURE.

PROFESSOR SAINTSBURY.

*(Ordinary Course, 4 to 5, five days a week throughout the Winter Session.)*

On Mondays, Wednesdays, and Fridays, the Lectures will be devoted, before Christmas, to a survey of Style both in Poetry and Prose from Chaucer to the Nineteenth Century; after Christmas to a similar survey of the General History and Contents of the Subject from the earliest texts to the present day. There will be Three Class Examinations during the Session, and at convenient intervals between them written Exercises will be done in Class. Two subjects for longer written Essays will also be given, one before, one after Christmas: and there will be Prizes for these Essays, distinct from the general Class Prizes. A certain number of Lectures will be specially devoted to the subject of Rhetoric, the text being De Quincey's Essay, with Campbell's *Philosophy of Rhetoric*, Whately's *Rhetoric*, Bain's *Composition and Rhetoric*, and Hodgson's *Errors in English* for illustration.

On Tuesdays and Thursdays the Lectures will take for text the books prescribed for the year, some of which will be read page by page and line by line, while others will be dealt with more summarily. The prescribed books will always include

parts of Chaucer, Spenser, Shakespeare, and Milton, together with portions of other writers from the sixteenth century to the present day. The Lectures on Style will be illustrated from Ward's *Poets* and Craik's *Prose Selections*.

*(Honours Course, 2 to 3, three days a week in the Winter Session.)*

The Professor will also give an Honours Course in two Halves of twenty-five Lectures each. The Half-Course before Christmas will be a Higher Rhetoric Course on the Theory of Prose and Verse in English, opening with a sketch of the History of Literary Criticism from Aristotle onwards. The course after Christmas will be devoted to some special subject connected with the Honours period of the year. The subject for 1901 will be "The English Drama from its origins to Shakespeare"; for 1902, "The English Drama from Jonson to Farquhar."

#### *Honours Courses.*

G. GREGORY SMITH, M.A., *Lecturer.*

#### OLD AND MIDDLE ENGLISH.

A full Honours Course of Fifty Lectures (in two parts of Twenty-five Lectures each) on Old and Middle English will be delivered in the Winter Session.

#### A.—HISTORY OF OLD AND MIDDLE ENGLISH.

The work of this Class (Monday, Wednesday, and Friday from 3 to 4, beginning Friday, 19th October) will consist of—

1. An Historical Outline of the Development of the English Language, in regard to Phonetics, Accidence, Syntax, and Vocabulary. Special attention will be given to the Dialects.
2. English Palæography.

*Books for reference.*—Sweet's *Oldest English Texts* and *History of English Sounds*; Ellis's *Early English Pronunciation*; Sievers's *Old English Grammar* (ed. Cook); Kellner's *Historical Outlines of English Syntax*; Skeat's *Principles of English Etymology* (First and Second Series); Oliphant's *Old and Middle English*; Murray's *Dialect of the Southern Counties*



of Scotland (Introduction); Skeat's *Facsimiles of Old English Manuscripts*; Maunde Thompson's *Greek and Latin Palæography* (chaps. xvii.-xix.).

#### B.—OLD AND MIDDLE ENGLISH TEXTS.

The work of this Class (Monday, Wednesday, and Friday from 3 to 4, beginning Wednesday, 9th January) will consist of (a) Readings in Old and Middle English, including some of the texts prescribed for the Examination for the Honours Degree, and (b) Translation of Unseen Passages.

*Summer Session, 1901.*

#### ENGLISH LITERATURE.

An Honours Half-Course of Twenty-five Lectures on the Poetry of the Seventeenth Century.

The Class will meet on Monday, Wednesday, and Friday from 12 to 1.

#### FRENCH LANGUAGE AND LITERATURE AND ROMANCE PHILOLOGY.

CHARLES SAROLEA, PH.D., LITT.D., *Lecturer.*

*Ordinary Graduation Class*—3 to 4, five times a week.

This class qualifies for the Ordinary Degree of M.A.<sup>1</sup> The work consists of—

1. Readings of some French author, such as Rousseau, Voltaire, Chateaubriand, Victor Hugo.
2. Lectures on French Literature or History.
3. French Prose Composition, or Translation of an unseen passage once a week, and a lecture on the passage when the exercises are returned.
4. Written Examinations on the work done in the Class, and on subjects prescribed for voluntary reading.
5. Lectures on the Philology and Historical Development of the French language.

Books to be read during the Winter Session 1900-1901:—Brachet, *Morceaux choisis du 16<sup>e</sup> Siècle*; Racine, *Athalie*;

<sup>1</sup> See footnote 2, page 58.

Molière, *Misanthrope et Femmes Savantes*; La Bruyère, *Caractères*; Saint-Simon, *Mémoires*; Victor Hugo, *Extraits* (Poésie); Taine, *Littérature anglaise* (5<sup>e</sup> volume).

*Honours Class—4 to 5.*

The Honours French Class meets four days a week. It is intended to assist the studies of Candidates for Scholarships and Graduation with Honours. The work consists of—

1. Readings and explanations of Old French Texts, and of some of the more difficult Modern French authors.
2. Lectures on French Literature or History, and on Romance Philology.
3. French Composition and Translation of unseen passages.
4. Occasional critical papers and essays.
5. Written Examinations on the work done in the Class, and on subjects prescribed for voluntary reading.

Books to be read during the Session 1900-1901 :—*Chanson de Roland*; Rousseau, *Contrat Social*; Victor Hugo, *Année Terrible*; Faguet, *Politiques et Moralistes*; Taine, *Angleterre*.

## ITALIAN LANGUAGE AND LITERATURE AND ITALIAN PHILOLOGY.

*Course of Fifty Lectures on the Honours Standard.*

CHARLES SAROLEA, PH.D., LITT.D., *Lecturer.*

This Class meets three days a week. The work consists of—

1. Readings and explanations of Italian Classics of the 14th and 16th century (with special regard to Dante), and of some of the more difficult modern Italian authors.
2. Lectures on Italian Literature and History, and on Italian Philology.
3. Occasional critical Papers and Essays.
4. Written Examinations on the work done in the Class, and on subjects prescribed for voluntary reading.

Books to be read during the Session 1900-1901 :—Dante, “*Divina Commedia*,” “*De Monarchia*”; Manzoni, “*I promessi Sposi*”; Leopardi, *Prose*; D’Ancona, “*Manuale della Letteratura italiana*.”

Students who desire to attend this Course are requested to send their names to Dr Sarolea, University, before 1st October.

## GERMAN LANGUAGE AND LITERATURE AND TEUTONIC PHILOLOGY.

OTTO SCHLAPP, PH.D., *Lecturer.*

*Ordinary Graduation Class*—4 to 5, five times a week.

This class qualifies for the Ordinary Degree of M.A.<sup>1</sup> The work consists of—

1. Interpretation of some Middle High German and Sixteenth Century Texts, and of such modern German authors as Winckelmann, Klopstock, Lessing, Herder, Goethe, Schiller, Heine, Uhland, Freytag, Riehl, and Storm.

2. Lectures on German Literature or History.

These lectures, the subject of which will be announced in due time, will be delivered *in German* on Fridays, and may be taken as a separate course on payment of a Class Fee of One Guinea, and in the case of non-matriculated students of an additional Five Shillings University Entrance Fee.

3. German Prose Composition, or translation of an unseen passage, or a critical paper or German essay at least once a week, and a lecture on the papers when returned.

Twenty Class Meetings (on Wednesdays) will be devoted to German Prose Composition, and may be taken as a *separate course* on payment of a Class Fee of One Guinea, and in the case of non-matriculated students, of an additional Five Shillings University Entrance Fee.<sup>2</sup>

4. Written Examinations on the work done in the Class, and on subjects prescribed for voluntary reading.

5. Lectures on the Philology and Historical Development of the German Language.

During the Winter Session 1900-1901 the following texts

<sup>1</sup> See footnote 2, page 58.

<sup>2</sup> Non-matriculated students taking this class must be at least eighteen years of age.

will be read or interpreted :—Walter ; Sachs ; Volkslied ; Lessing's *Minna* ; Schiller's *Maria Stuart, Balladen* ; Goethe's *Egmont*.

*Honours Class—3 to 4.*

The Honours German Class meets four days a week. It is intended to assist Candidates for Scholarships and Graduation with Honours. The work of this Class is carried on in *German*, and consists of—

1. Interpretation of Gothic, of Old, Middle, and Early Modern High or Low German Texts, and of some of the more difficult modern authors.

2. Lectures on German Literature or History.

3. German Composition, Translation of unseen passages, occasional critical papers and German essays, and a lecture on the papers when returned.

Twenty Class meetings (on Wednesdays) will be devoted to advanced German Prose Composition, and may be taken as a *separate course* on payment of a Class Fee of One Guinea, and in the case of non-matriculated students of an additional Five Shillings University Entrance Fee.

4. Written Examinations on the work done in Class, and on subjects prescribed for voluntary reading.

5. Lectures on the Philology and History of the German Language.

During the Session 1900-1901 the following texts will be interpreted :—*Gotische Sprachdenkmäler* ; *Althochdeutsche Literatur* ; Nibelungen, Klopstock, Winckelmann, Herder, Schiller's *Briefe* and *Gedichte*, Tasso, Reuter.

## SANSKRIT AND COMPARATIVE PHILOLOGY.

PROFESSOR EGCELING.

### A.—SANSKRIT LANGUAGE AND LITERATURE.

1. *Junior Class*.—Grammar and Exercises. Easy Texts (from Lanman's Reader). Easy translations from English into Sanskrit.

2. *Senior Class*.—Repetition of Grammar. Translations from English into Sanskrit. Texts, such as the *Hitopadeśa*, *Kālidāsa's*

Raghuvansa or Śakuntalā; Mricchakatikā; Manu's Institutes of Law; selected Hymns of the Rigveda (Lanman's Reader).

The Senior Class will be the Graduating Class in Sanskrit for the Ordinary M.A.; but those who attend with a view to Graduation must previously have passed an examination under Sect. IV., subs. 3 of the Ordinance, which will include plain passages for translation from and into Sanskrit, and grammatical questions.

Those who propose, in a subsequent session, to take up Sanskrit as a graduation subject, may attend the Junior Class during the Session 1900-1901.

#### B.—COMPARATIVE PHILOLOGY.

During the Session 1900-1901, the Professor will be prepared to deliver a course of Fifty Lectures on the Principles of Indo-European Philology and the history of Linguistic Studies, provided a sufficient number of Students give in their names.

#### HEBREW AND SEMITIC LANGUAGES.

PROFESSOR KENNEDY.

See Courses under Faculty of Divinity.

*Arts Students are strongly advised to begin their study of Hebrew and Arabic by taking the Summer Tutorial Classes.*

The Class of Senior Arabic, which meets three times a week, has been recognised by the University Court as a half-course qualifying for Graduation in Arts. It will meet in two successive (instead of in alternate) Sessions, when required, to suit the convenience of intending Graduates.

#### CELTIC.

PROFESSOR MACKINNON.

The Course for 1900-1901 will be arranged as follows:—

1. *Lectures*.—During the Session a course of fifteen to twenty lectures will be delivered on The History and Literature of the Gael, down to 1000 A.D., and a similar course on Celtic Grammatical forms.

2. *Reading and Exposition*.—(1) Scottish Gaelic: Extracts for Reading, Part II.; Stewart's Grammar. (2) Irish Gaelic:



Keating's Three Shafts of Death; O'Donovan's Grammar. (3) Old Gaelic: Extracts for Reading, Part II.; Windisch's Grammar and *Irische Texte*.

3. *Translations from English into Modern and Old Gaelic.*

Any student who attends this Class with a view to Graduation in Arts must previously have passed an examination (under Sect. IV., subs. 3 of the Ordinance), which will be in Scottish Gaelic, or Irish Gaelic, or Welsh; and will include translations from and into English, with grammatical, literary, and easy philological questions.

The fee for a Student who attends with a view to graduation is £3, 3s.

An Advanced Class will meet in the Winter Session, 1900-1901, on Monday and Friday, at 3 P.M. The Class will read Old Gaelic Texts from print and manuscript.—Fee, £1, 1s.

A Gaelic Class for Junior students will meet in the Winter Session 1900-1901, Tuesday, Wednesday, and Thursday, at 3 P.M. Students will read Modern Scottish and Irish Gaelic, and commence the study of Old Gaelic. Grammar and Exercises.—Fee for this class, £1, 1s.

*Text-Books.*—Extracts for Reading, Parts I. and II.; Stewart's and Joyce's Grammar; Windisch's Grammar.

## II.—DEPARTMENT OF MENTAL PHILOSOPHY. LOGIC AND METAPHYSICS.

PROFESSOR A. S. PRINGLE PATTISON.

### *Logic and Psychology—Ordinary Class—1 to 2.*

The course in this class falls into three parts:—

(1) Elements of Logic, Deductive and Inductive; (2) Outline of the main facts of Empirical Psychology, dealing more particularly with the facts and processes of cognition; (3) Introduction to the questions of philosophy, with reference to the history of Greek philosophy and of modern philosophy in England.

1. In the Logical part of the course the text-book used is Jevons's "Elementary Lessons in Logic."

It is extremely desirable that students, before entering the class, should have familiarised themselves with the main doctrines of Formal Logic; and a tutorial class (Fifteen Lectures) for those who desire it is held in summer by Mr Hardie, Assistant to the Professor. An examination is held about a fortnight after the opening of the Winter Session to test the knowledge of the class. It embraces the first seventeen Lessons in Jevons with the exception of Lessons 4, 6, 7, 10, 11, and 13; for Lesson 10 students should substitute a printed chapter which they may obtain on application at the Matriculation Office. For those who fail to reach a reasonable standard in this examination, separate tutorial meetings will be held during the early part of the session.

The lectures in Logic will assume this elementary knowledge to have been acquired, and will be devoted mainly to the principles of the subject.

2. In the Psychological division of the course no text-book is prescribed, but frequent reference is made to the leading works on the subject, and a Handbook such as Stout's "Manual," James's "Text-book," Sully's "Outlines," Höffding's "Outlines," or Baldwin's "Elements," may be usefully read in connection with the lectures.

The lectures cover the chief topics of the Psychology of Cognition, with the Psychology of the Feelings and the Will in outline.

3. The Philosophical lectures give a sketch of the development of speculative thought in Ancient Greece and then pass to the beginnings of Modern Philosophy. Bacon, Descartes, Locke, Berkeley, and Hume are studied in succession.

Professor Fraser's "Selections from Berkeley" and certain chapters of Locke's "Essay" and Hume's "Enquiry" are used in connection with the lectures as an introduction to the problems of modern philosophy.

*Metaphysics and History of Philosophy—Honours Class—4 to 5.*

This Class, an Honours Course of Fifty Lectures, is intended for those who have attended the ordinary course, or have otherwise some acquaintance with philosophy. The lectures deal in

a more advanced way with the chief systems of modern philosophy, special attention being devoted to Spinoza and Kant. Guidance is also given in the study of Advanced Psychology, and some of the Lectures deal with the problems of Advanced Logic.

Lectures on Greek Philosophy are delivered as a part of this Course by Mr Hardie, Assistant to the Professor and Lecturer in Logic and Metaphysics.

The Class meets on Tuesday and Thursday throughout the Session, and during part of the Session at a separate hour for the Lectures on Greek Philosophy.

*Summer Session, 1901.*

R. P. HARDIE, M.A., *Lecturer.*

*Honours Courses in Ancient Philosophy.*

Each of the following will constitute a Half-Course qualifying for Honours in Mental Philosophy and in Classics :—

A.—Subject, Aristotle.

*Books.*—Two or three of the following :—Aristotle, *Organon* (as in Trendelenburg, *Elementa Logices Aristoteleae*) ; *Physics*, Bks. I., II. ; *De Anima*, especially Bk. I. i., II. i-vi., xii., III. i-v. ; *Nicom. Ethics*, especially Bks. I. and II.

B.—Subject, Pre-Socratic Philosophy and Plato.

*Books.*—Ritter and Preller, *Historia Philosophiae Graecae*, Sections 1-173 ; Plato's Dialogues, especially *Phaedo*, *Republic*, *Theaetetus*.

Course B is intended for students of Greek Philosophy who are unable to attend Course A ; it will be given only if a sufficient number desire it.

In connection with Course A, some lectures (to students reading for Honours in Mental Philosophy) may be given on the development of Logic and on recent contributions to Logic, such as those of Mill, Sigwart, and Bradley.

*Tutorial Class in Elementary Logic.*

This Course of Fifteen Lectures on Logic is intended to prepare Students for the Ordinary Class of Logic and Metaphysics

## MORAL PHILOSOPHY.

PROFESSOR JAMES SETH.

*Ordinary Class—2 to 3.*

After an introductory statement of the problem and method of Ethics, a sketch of the development of moral ideals in primitive, ancient, and modern times will be given, with the object of awakening reflection upon the central question of ethical science—the nature of the Moral Ideal. The investigation of this question will occupy the larger part of the course, and will be based upon a critical study of the chief systems of Ethics, in the light of their historical development. The application of the general principle thus reached to the regulation of the moral life, individual and social, will next be considered, special attention being given to the ethical basis and functions of the State, and to some of the more concrete aspects of current morality. The course will close with a discussion of the metaphysical implications of ethical theory, more particularly the question of Freedom.

The Course will consist of lectures, discussions, written examinations and essays. The text-book will be the Professor's *Ethical Principles*, and a special study will be made of Butler's *Sermons on Human Nature*, Mill's *Utilitarianism*, and Spencer's *Data of Ethics*. Sidgwick's *History of Ethics* should also be studied in connection with the lectures. A short course of lectures on portions of Aristotle's *Ethics* will be given by the Assistant to the Professor.

*Honours Class—4 to 5.*

This Course of Fifty Lectures is intended for those who have attended the Ordinary Class, or have otherwise obtained a general knowledge of Moral Philosophy. Plato's *Republic* and Aristotle's *Ethics*, as representing Greek moral philosophy, and the works of Spencer, Sidgwick and Green, as representing contemporary points of view, will be made the subjects of special study. The Ethics of Kant and Hegel will be considered in a more general way.

*Summer Session, 1901.*

HENRY BARKER, M.A., *Lecturer.*

*Honours Courses in Political Philosophy and Psychology.*

One or both of the following half-courses will be given, if desired by a sufficient number of students :—

1. A half-course in Political Philosophy, qualifying for Honours in Philosophy and Honours in Economic Science. This course is intended for students who propose to take Honours in Philosophy with Political Philosophy as a special subject, or Honours in Economic Science. The lectures will deal with topics selected from the following list :—

(1) Scope and method of political philosophy—relation to ethics, economics, and history. (2) General theory of political obligation ; nature and basis of the State. (3) Particular theory of rights and obligations, and the related functions of the State. (4) Structure and forms of government. (5) History of political philosophy.

Special attention will be given to the works in Political Philosophy prescribed or recommended for Honours in Philosophy and in Economic Science.

2. A half-course in Psychology qualifying for Honours in Philosophy. In this course some of the more difficult and disputed topics of psychology will be discussed, especially those which are of philosophical and ethical interest ; and some account will be given of experimental problems and results. Special attention will be given to the works in Psychology prescribed or recommended for Honours.

## COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

PROFESSOR NICHOLSON.

The Course, embracing two Half-Courses of Fifty Lectures each, qualifies for Graduation in Arts and for Graduation in Law (optional with Conveyancing).

In connection with the Lectures students are expected to read the portions indicated of Mill's Political Economy, Bks. I. to



III. ; Marshall's Economics of Industry ; Smith's Wealth of Nations, Bk. IV. ; and the Professor's "Treatise on Money," 5th edit. For fuller treatment of the subjects of the Lectures students may consult the Professor's "Principles of Political Economy," Bks. I. to III.

1. SCOPE AND METHOD OF POLITICAL ECONOMY.—Analysis of Fundamental Conceptions, Wealth, Utility, Total and Marginal Utility, Capital, Labour, &c.

2. PRODUCTION OF WEALTH.—Meaning of Production—Agents of Production—Land Labour and Capital—Efficiency of Labour—Division of Labour—Organisation of Industry—Production on a Large and Small Scale—Accumulation of Capital—Growth of Population—Limits to the Production of National Wealth.

3. DISTRIBUTION OF WEALTH.—Private Property—Socialism—Land Tenures—Wages—Profits—Rents—Combinations of Labour and Capital.

4. EXCHANGE.—Theory of Value—Demand and Supply—Cost of Production—Money—Banking Credit—Rate of Interest—Commercial Crises—Foreign Trade—Free Trade—Foreign Exchanges.

5. PRINCIPLES OF GOVERNMENTAL CONTROL AND TAXATION.—An Elementary Treatment of the Leading Principles.

Four written Examinations and Two Essays. Essays Voluntary.

*Honours Class*—(Fifty Lectures, 3 to 4, Mondays, Tuesdays, Thursdays).

Half of the Course will be mainly devoted to British Economic History, and Half to more difficult Economic Theories with special treatment of the Economic Functions of Government and the Principles of Public Finance. The two Half-Courses may be taken separately.

As preparatory to the Course, students are recommended to read — Cunningham's "Growth of English Industry and Commerce," Bastable's "Public Finance," and the Professor's "Principles of Political Economy."

## THEORY, ART, AND HISTORY OF EDUCATION

PROFESSOR S. S. LAURIE.

### I. THEORY, OR PHILOSOPHY OF EDUCATION.

#### A.—THE END AND MATERIALS OF EDUCATION.

The Possibilities and Limits of Education. The End of Education. The relation of the School to this End. The Educative Process, generally, whereby the End is attained.

Materials or Subjects of Instruction conducive to the attainment of the End, and the carrying out of the Process. Definition of the materials of instruction in their school sense. Relative value of subjects for instruction and discipline respectively. Practicability of the School Curriculum. Distinction of Real and Formal, Humanistic and Naturalistic, subjects.

*Material conditions of the life and growth of Mind, i.e. Physiology and its Educational Lessons.*

#### B.—PHILOSOPHY OF EDUCATION, *i.e.*

*Applied Psychology and Ethics.*—1. The Psychology of Intelligence in its educational relations fully treated. Periods of Mental Growth. Methodology or the Principles and Rules of the Art of Instruction which the philosophy of mind yields.

2. Psychology of the Ethical Nature of Man in its educational relations. The Real of Morality (Instruction and Training); the Formal in Morality (Discipline to Duty).

### II. ART OF EDUCATION OR APPLICATION OF PRINCIPLES AND RULES.

A.—*Intellectual.*—*Rules of the Art, i.e. Method in Intellectual Instruction, Training, and Discipline.*—Analytic exposition of the Rules, showing their derivation from the philosophy of education. Application of the Rules to teaching of—

(1) Real-Naturalistic subjects, *e.g.* Object-lessons, Nature-knowledge, Elementary Science, Geography, &c., &c.

(2) Real-Humanistic subjects, *e.g.* Language, Literature, Economics, History, &c.

(3) Formal subjects, *e.g.* Arithmetic, Geometry, Grammar, Foreign Languages, &c.

B.—*Ethical*.—*Rules of the Art*, i.e. *Method in Moral Training and Discipline*.—Motives. The Authority of the Teacher. The meaning of Authority. The nature and conditions of its exercise. Punishments, Rewards, and school discipline generally.

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Organisation of a School. Organisation of a State-system. Ideas governing Primary, Secondary, and University Instruction respectively. The Manual and the Technical in Instruction. School appliances. Manipulation of a Class. The Teacher.

#### D.—HISTORY OF EDUCATION AND OF THEORIES.<sup>1</sup>

*Pre-Christian Education* — 1. Education in Ancient Egypt. 2. Education among the Semitic Races. 3. Education of the Hindu Races. 4. The Education of the Ancient Persians. 5. Education among the Hellenic Races. The educational views of Plato and Aristotle. 6. Education among the Romans. 7. Detailed analysis and exposition of the Institutions of Quintilian. 8. Plutarch.

*Christian Education*—1. The decay of the Romano-Hellenic, and the rise of Christian, Education. 2. The Cathedral and Monastery Schools. 3. The Rise of Universities.

*The Renaissance*—1. Humanism as represented by Vittorino da Feltre, Elyot, Rabelais and Montaigne, Erasmus, Colet, Luther, Melancthon, John Sturm, Roger Ascham. Exposition of "The Scholemaster."

*The Modern Movement* — 1. Lord Bacon. 2. Raticchius. 3. Comenius. 4. Milton. 5. Analysis and exposition of John Locke's "Thoughts on Education," and the "Conduct of the Human Understanding." 6. Rousseau. 7. Pestalozzi, Jacotot, Fröbel, &c. 8. Dr Andrew Bell and Joseph Lancaster. 9.

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<sup>1</sup> In 1900-1901 the Lectures will be confined to the period from 1350 to 1700 A.D., i.e. the Renaissance and the Modern Period.

Dr Arnold. 10. Herbert Spencer and contemporary Utilitarian Realism.

*Note.*—The books to be thoroughly studied during the Session, apart from the Lectures, are Comenius' *Didactic*, and the Professor's book on "Language and Linguistic Method," *third edition*. The "Institutes of Education" must also be in the hands of the student, *second edition*. *Four written Examinations will be held during the Session, and Three Essays on educational principles or method called for.*

PRACTICE IN TEACHING.—Arrangements are made at the Training Colleges for securing training in the *Practice of Teaching* to the extent of the requirements of the University Schoolmaster's Diploma now recognised by the Education Department. Fee for this, £1, 1s. The School Board admit Diploma Candidates to the Royal High School, and the Heriot Governors and Merchant Company have also kindly thrown open their Secondary Schools for those who are going in for the higher Diploma.

## PHILOSOPHY OF LAW

PROFESSOR SIR LUDOVIC GRANT, BART.

This Course of Forty-five class meetings, commencing on Tuesday, 16th October 1900, at 2, will qualify as a half-course for graduation. *Vide under Faculty of Law.*

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## GIFFORD LECTURES ON NATURAL THEOLOGY.

*Lecturer*—PROFESSOR WILLIAM JAMES, OF HARVARD UNIVERSITY.

These Lectures were endowed by the late Adam Gifford, Senator of the College of Justice, "for promoting, advancing, teaching, and diffusing the study of Natural Theology in the widest sense of that term." . . . "The lecturers appointed shall be subjected to no test of any kind, and shall not be required to take any oath, or to emit or subscribe any de-

claration of belief, or to make any promise of any kind ; they may be of any denomination whatever, or of no denomination at all ; they may be of any religion or way of thinking, or, as is sometimes said, they may be of no religion ; or they may be so-called sceptics or agnostics or free-thinkers ;—provided only that the ‘patrons’ will use diligence to secure that they be able reverent men, true thinkers, sincere lovers of and earnest inquirers after truth. I wish the lecturers to treat their subjects as a strictly natural science, the greatest of all possible sciences, indeed, in one sense, the only science,—that of Infinite Being, without reference to or reliance upon any supposed special exceptional or so-called miraculous revelation. The lecturers shall be under no restraint whatever in their treatment of their theme. The lectures shall be public and popular, that is, open not only to students of the Universities, but to the whole community, without matriculation.”

*The arrangements for 1900-1901 will be announced before the opening of the Session.*

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### III.—DEPARTMENT OF SCIENCE. MATHEMATICS.

PROFESSOR CHRYSTAL.

*Junior Class*—Taught by the Assistant, under supervision of the Professor. 12 to 1.

Plane Geometry equivalent to Euclid, Books i., ii., iii., iv., and vi. (*Syllabus of Plane Geometry*, prepared by the Association for the Improvement of Geometrical Teaching forms the text of the lectures) ; Solid Geometry, equivalent to Euclid, Book xi. ; Modern Geometry ; and Elementary Algebra.

*Senior Class*—9 to 10.

This is the qualifying class for the Ordinary Degree of M.A. and for the First Science Examination.<sup>1</sup>

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<sup>1</sup> See footnote 2, page 60.



Algebra, including the elements of the Theory of Equations, and of Determinants, the Theory of Limits and the Elements of Curve Tracing; Plane Trigonometry; Conic Sections, treated geometrically and analytically; Modern Geometry.

*Intermediate Honours Class*—Monday, Wednesday, Friday,  
11 to 12.

This course will suit Engineers and other Science Students who do not wish to make a specialty of Pure Mathematics.

Elementary parts of the Differential and Integral Calculus, and of the Calculus of Finite Differences. Analytical Geometry, Plane, and Elementary Solid. It is assumed that the Student has a knowledge of the Theory of Equations, and of the elements of the Theory of Determinants before he joins this Class.

*Advanced Honours Class*—Monday, Wednesday, Friday,  
10 to 11.

The subjects of this are the higher parts of the Differential and Integral Calculus; Differential Equations; Definite Integrals with special reference to Fourier's Theorem; Functions of Laplace and Bessel; Higher Plane Curves; Analytical Geometry of Three Dimensions.

Additional lectures on Quaternions, Projective Geometry, and other special subjects are given occasionally.

*Tutorial Classes.*—Occasional lectures are also given by the Class Assistant. The time is devoted to the repetition of parts of the class lectures and to the working of examples.

*Home Exercises* are prescribed weekly in all the classes.

*Written Examinations* are held during the Session. The class honours are determined solely by these examinations.

*Text-Books.*—As a rule *special* text-books are not prescribed; but the student is recommended to select from the following:—

*Geometry.*—Wilson's Elementary Geometry, or the Text-Books of the Society for the Improvement of Geometrical Teaching, and one or more of the following, for the sake of the exercises they contain:—Mackay's, Todhunter's, Nixons', or

Casey's edition of Euclid's Elements, and Casey's Sequel to Euclid.<sup>1</sup>

*Algebra*.—Chrystal, or Todhunter, Gross, Chambers's Mathematical Tables.

*Solid Geometry and Conic Sections*.—Taylor (smaller work) or Taylor<sup>1</sup> (larger work).

*Trigonometry*.—Todhunter, Walmsley, or Lock (M'Lelland and Preston<sup>1</sup> for Spherical Trigonometry).

*Analytical Geometry*.—Smith's Analytical Conic Sections; and Dyer's Exercises in Analytical Geometry. Students intending to take the Third Class are recommended to get Salmon's Conic Sections, Salmon's Higher Plane Curves,<sup>1</sup> and Salmon's Geometry of Three Dimensions,<sup>1</sup> or, instead of the last, Smith's Solid Geometry.

*Projective Geometry*.—Cremona's Elements of Projective Geometry translated by Leudesdorf, or Henrici's Article on Geometry, "Encyclopædia Britannica" (9th edition).

*Higher Algebra and Theory of Equations, etc.*—Burnside and Panton's, or Todhunter's Theory of Equations; Thomson's Introduction to Determinants, and Muir<sup>1</sup> or Scott<sup>1</sup>; and Salmon's Higher Algebra for those who mean to read for Mathematical Honours.

*Differential and Integral Calculus*.—Williamson's Treatises, Forsyth's Differential Equations,<sup>1</sup> Frost's Curve Tracing, Boole's Finite Differences.<sup>1</sup>

*Summer Session, 1901.*

CHARLES TWEEDIE, M.A., B.Sc., *Lecturer.*

1. *Senior Mathematics (First Graduation Half-Course)*—

11 to 12.

This Class qualifies for Graduation in Arts and Science as a First Half-Course<sup>2 3</sup> in Mathematics. The work consists of Algebra and Plane Trigonometry, corresponding to the First Half of the Winter Graduation Course.

<sup>1</sup> Recommended to those only who make Mathematics a speciality.

<sup>2</sup> See footnote 1, p. 91.

<sup>3</sup> See footnote 2, p. 60.

2. *Senior Mathematics (Second Graduation Half-Course)—*  
12 to 1.

This Class qualifies for Graduation as a Second Half-Course<sup>12</sup> if taken *after any* First Half-Course in Mathematics. Suitable also for Students reading for the more advanced part of the Winter Graduation Course. The work consists of Algebra and the elementary treatment of the Conic Sections, Geometrical and Analytical.

In each Class weekly exercises are prescribed, and two written examinations are held.

3. *Honours Mathematics (Graduation Half-Course)—*10 to 11.

This Class qualifies as a First Half-Course for Graduation in Arts and Science, with Honours in Mathematics and Natural Philosophy, and will also, so far as is expedient, be adapted for Engineering Students.

The course will aim at a working acquaintance with the more elementary parts of Determinants and the Theory of Equations (not treated in the Winter Advanced Courses), Differential and Integral Calculus, Finite Differences, and Analytical Geometry.

*Tutorial Classes.*

The above Classes also serve for Tutorial Classes.

Weekly exercises are prescribed on the work of each class.

For text-books, see page 90.

NATURAL PHILOSOPHY.

PROFESSOR TAIT AND DR KNOTT.

*Ordinary Class.*—(Qualifying for M.A. and First Science Examination.)<sup>2</sup>

The subjects embraced in this Course are :—

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<sup>1</sup> The first half of the Winter Graduation Course up to Christmas qualifies as a First Half-Course in Mathematics, and the second half of the Winter Course from Christmas to the end of the Session as a Second Half-Course. *Any* First Half-Course, along with *any* Second Half-Course, taken subsequently, qualifies as a full Course of Instruction for Graduation.

<sup>2</sup> See footnote 2, page 60.

1. Properties of Matter—including Inertia, Gravitation, Molecular Forces, &c.

2. Abstract Dynamics—including Kinematics, Statics and Kinetics of Solid, Liquid, and Gaseous Bodies, with their applications.

3. Sound, and Wave-propagation in general.

4. Heat (including Thermo-Dynamics).

5. Light (Geometrical and Physical Optics, and Radiation generally).

6. Electricity.

7. Conservation of Energy.

8. Astronomy (Descriptive and Physical).

9. Meteorology.

Properties of Matter, Abstract Dynamics, and Conservation of Energy, together with two or three others of the above divisions of the subject, are treated in detail every Session, the remainder being discussed in a more superficial manner, as it is impossible to enter at length into all in a single Session.

It is intended that in 1900-1901, besides Sections 1, 2, and 7, Sections 3 and 5 shall form the more detailed part of the Course.

The Class is examined at intervals upon the subjects treated in the Lectures; and a prize is given for the best answering. In these examinations, which form an essential part of the class-work, no Mathematics are requisite, except the most elementary portions of Arithmetic, Algebra, and Geometry.

In January and March there are special Examinations on prescribed subjects, applying mainly to students competing for Class Prizes; and, on these two occasions only, the Class is divided into two parts—the division depending mainly upon the students' proficiency in Mathematics. In the Lower Division, the elements of Algebra and Geometry alone are required; in the Higher Division, Algebra, Geometry, and the Geometry of the Conic Sections are necessary. The Prizes in each Division are determined by adding the marks obtained in the two sets of Examinations above described. No student who has obtained a Prize in either Division can compete, in a subsequent Session, for a Prize in the same or in a lower Division.

The Text-Book for the Dynamical part of the Course will be the little work "Newton's Laws of Motion" (A. & C. Black, 1899). For the remainder of the subject the student may consult some of the following books :—Clerk-Maxwell's "Matter and Motion," Jenkin's "Electricity," Balfour Stewart's "Lessons in Physics," Knott's "Physics," Tait's "Properties of Matter," "Heat," and "Light."

The special Examinations in January 1901 will be on :—

*Higher Division.*—Newton's "Three Sections" (Goodwin's "Course of Mathematics," Frost's "Newton," or any good edition of the *Principia*).

*Lower Division.*—Herschel's "Astronomy," the smaller work, in a recent edition, omitting the chapter on Perturbations. A series of explanatory lectures will be given by the Class-Assistant before this Examination.

The subjects for the March Examinations in both Divisions will be Kinematics and Dynamics. The range will depend upon the progress which the Class has made in these subjects.

*Intermediate Honours Class*—Monday, Wednesday, Friday,  
9 to 10.

This Course, given by the Lecturer on Applied Mathematics, will include the more elementary parts of Dynamics of Particles, Rigid Solids, and Flexible Strings ; the Theory of the Potential ; and Thermodynamics.

For syllabus of Advanced Science (Dynamics) Class, see Courses in Science.

*Advanced Honours Class*—Monday, Wednesday, Friday,  
12 to 1.

In this Course (given by the Professor), the subjects begun in the Intermediate Course will be further developed : and Thermodynamics, with one or more special branches of Applied Mathematics [such as the Kinetic Theory of Gases, the Lunar Theory, the Undulatory Theory, Vortex Motion, &c.] will be fully treated. It is most important to observe that no one can possibly profit by attendance at this class, unless he

has fully mastered the subjects treated in the Intermediate Class.

One of the text-books in each of these Honours Courses is Tait's *Dynamics*, a reprint of "*Mechanics*," in the last edition of the "Encyc. Brit."

#### SUMMER CLASS OF PHYSICS, SPECIALLY FOR MEDICAL STUDENTS.

For particulars, see Courses in Faculty of Medicine.

#### PHYSICAL LABORATORY.

This has been established with the view of affording students a practical knowledge of the construction and use of physical apparatus, and the mode of conducting experimental inquiries. The Laboratory is open five or six hours daily in the Winter and Summer Sessions, under superintendence of the Professor and his Class-Assistant. Fee, £6, 6s. for the Winter Session. It is hoped that, with the aid of the valuable collection in the Museum, results of real use to science may be obtained.

A practical class, for instruction in the elementary processes of measuring Time, Mass, Length, Angle, Force, &c., will be formed in Winter and also in Summer. Each Course will extend to about three months. Fee, £2, 2s.

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#### ELEMENTARY DYNAMICS.

C. G. KNOTT, D.Sc., *Lecturer.*

This Half-Course, to be given in the Summer Session 1901, is primarily intended to prepare students for the Intermediate Honours Class in Natural Philosophy and the Advanced Science Class in Dynamics (Engineering). To facilitate the work of these Winter Classes, all Honours and Science Candidates are strongly recommended to take this Course, in which only Mathematics of the standard of the Higher Preliminary will be used. The Course will include Kinematics and Kinetics of a Particle, Impact, Simple cases of Kinetics of a Solid, Equilibrium, Statics, Hydrostatics.



Although the work will reach a somewhat higher standard than is necessary for the Dynamical part of the M.A. Pass and 1st B.Sc. Examination in Natural Philosophy, the Class will be serviceable to Students preparing for this Examination. The Course will also be useful to men preparing for the Civil Service Examinations.

Text-Books recommended.—MacGregor's *Dynamics*; Pinkerton's *Hydrostatics and Pneumatics*; Minchin's *Statics* (Vol. I.).

*Summer Session, 1901.*

#### ADVANCED EXPERIMENTAL PHYSICS.

W. PEDDIE, D.Sc., *Lecturer.*

In this Class certain subjects, which may be treated mathematically in the Winter Advanced Honours Course of Natural Philosophy, will be treated fully from the experimental point of view. The Course is also intended for undergraduates in Experimental Science. It is proposed to treat experimentally the advanced parts of Light, Electricity, Magnetism, &c. In connection with the Undulatory Theory, the following subjects will be discussed:—Reflection, refraction, and interference of ordinary and of polarised light; conical refraction; diffraction; electro- and magneto-optics; and the optical phenomena of crystalline substances. In Electricity and Magnetism such subjects as the discharge of electricity through gases; the screening effect of conducting sheets, and other phenomena associated with rapidly alternating electromotive forces; electromagnetic undulations; magnetic hysteresis, &c., will be treated. The experimental investigation of reciprocally related physical phenomena will be specially illustrated from various branches of physics; and, on the dynamical side, special attention will be devoted to the realisation of dynamical systems illustrative of physical phenomena.

*Tutorial Class.*

NATURAL PHILOSOPHY (*Advanced Honours*).

The work will correspond as closely as possible to that of the Winter Advanced Honours Course. The Class is intended

for Students preparing for the above Winter Course, or for the Advanced Honours Examination.

### ASTRONOMY.

PROFESSOR COPELAND.

*(Eighty Lectures, and, on different days, Twenty Meetings of two hours each for Observatory work.)*

Lectures on Practical Astronomy will be delivered on Mondays, Tuesdays, Wednesdays, and Thursdays. Instruction in the use of portable and fixed astronomical instruments will be given at the Royal Observatory on Blackford Hill, on Fridays, beginning at 8 P.M. Attendance at the evening demonstrations is obligatory on all who take Astronomy as a qualifying course for graduation. The Lectures will be divided into two sections, the first of which will embrace the theory and use of Astronomical Instruments, together with as much General Astronomy as is requisite to guide the student in making observations in the field as well as in an observatory. The Second Division will treat of the utilization of observations of Comets, etc., in the computation of orbits and ephemerides.

### CHEMISTRY.

PROFESSOR CRUM BROWN.

This Course, the same as for Students of Medicine and Science, embraces One Hundred Lectures and Fifty Meetings for Practical Work in the Practical Chemistry Class-Room.

### ZOOLOGY.

PROFESSOR EWART.

This Course, the same as for Students of Medicine and Science, embraces Fifty Lectures and Fifty hours for Practical Work.

### BOTANY.

PROFESSOR BAYLEY BALFOUR.

This Course is the same as for Students of Medicine and Science with additional laboratory work. Attendance must be given on seventy-five separate days.

GEOLOGY, INCLUDING MINERALOGY.

PROFESSOR GEIKIE.

This Course, the same as for Students of Science, embraces Seventy Lectures, Twenty Hours for Practical Work, and Ten Field Demonstrations.

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*IV.—DEPARTMENT OF HISTORY AND LAW.*  
HISTORY.

PROFESSOR LODGE.

The Course qualifies for Graduation in Arts. The subject, until further notice, is GENERAL BRITISH HISTORY, divided into the following Periods and Subjects :—

*Part I.*—1. The Original Peoples of Britain and the Roman Occupation.—2. The Growth of the English Nation.—3. The Growth of the Scottish Nation.—4. The Institutions of England before the Norman Conquest.—5. Norman and Angevin Rule.—6. Simon de Montfort and Edward I.—7. The Hundred Years' War.—8. Constitutional Development during the War.—9. The Social Importance of the Fourteenth Century.—10. The Scottish Monarchy, Nobles, and Parliament.—11. Personal Monarchy in England.—12. Social Changes in England under the Tudors.—13. The Reformation in England.—14. The Reformation in Scotland.

*Part II.*—15. Crown and Parliament (1603-1640).—16. The Long Parliament and the Protectorate (1640-1660).—17. Restoration and Revolution (1660-1689).—18. Colonies and Commerce (1600-1689).—19. Whigs and Tories : William III and Marlborough (1689-1714).—20. Scotland and Ireland : the Union (1689-1714).—21. The Whig Supremacy (1714-1760).—22. India and America (1714-1763).—23. George III and the Parliament (1760-1783).—24. The American War (1763-1783).—25. Pitt and the French Revolution (1783-1815).—26. Ireland : the Union (1715-1800).—27. India (1763-1815).—28. Reaction and Reform (1815-1832).

WORK OF THE CLASS.—1. Lecture daily, except Saturdays, at eleven.

2. Three Class Examinations will be held, and three or more Essays set, during the Session. Honours will be awarded to candidates distinguished both in the examinations and in the essays.

3. The History Library (adjoining Professor Kirkpatrick's Class-Room) may be consulted by members of the History Classes during specified hours.

*Books recommended.*—For elementary purposes, S. R. Gardiner's "Student's History of England," or Ransome's "Advanced History of England," J. R. Green's "Short History of the English People," J. F. Bright's "History of England," with Hume Brown's "History of Scotland," and Morris' "History of Ireland" (Cambridge Series). For wider study, see the Syllabus given to the Class and the lists given in the "Introduction to English History" by Gardiner and Mullinger, part ii.

### *Honours Classes.*

PROFESSOR LODGE.

The subject for the Session 1900-1901 is

### EUROPEAN HISTORY FROM 1610-1715.

The following books are prescribed:—Fontenay—Mareuil, "Mémoires"; Cardinal de Retz, "Mémoires"; Marquis de Torcy, "Mémoires." (These are included in the great collections of Petitot and of Michaud and Poujoulat.)

*Books recommended for the use of the Class.*—Gardiner, "The Thirty Years' War"; Gindely, "Thirty Years' War"; Fletcher, "Gustavus Adolphus"; Perkins, "France under Richelieu and Mazarin"; Voltaire, "Siècle de Louis Quatorze"; Lavallée, "Histoire des Français"; Stanhope, "War of the Spanish Succession"; Coxe, "House of Austria"; Hume's "Decline of Spain."

This Course of Fifty Lectures qualifies for graduation in Arts with Honours in History. The Lectures will be given on Mondays, Wednesdays, and Fridays at 10.

Two class examinations will be held, and several essays set, during the session. Students in this class may attend Mr Heatley's advanced course on "The English Kingship" without fee, and may use the History Reading-Room.

The Honours Subject for the session 1901-1902 will be—The History of France from 1715 to 1815, with special reference to the History of the French Revolution from 1789 to 1795.

BRITISH HISTORY (from Wycliffe to Luther).

*Honours Course—Fifty Lectures.*

PROFESSOR KIRKPATRICK.

I. Introductory—Conflicts between State and Church—Precursors of Wycliffe. II. Outline of Wycliffe's career—his doctrines—Lollardy—Survival of Wycliffe's influence. III. The Great Schism—the Empire and the Papacy—Huss, Jerome, of Prague, and Peter Payne—Luther. IV. Illustrations of Wycliffe's doctrines from his works and other original sources.

Syllabus on application to the Professor.

*Books recommended.*—Wycliffe's Works—"Select English Works," ed. by Thomas Arnold, 3 vols. 1869-71; "English Works of Wyclif hitherto unprinted," ed. by F. D. Matthew, 1880; Johann von Wiclif und die Vorgeschichte der Reformation" (by Dr G. V. Lechler, 2 vols., Leipzig, 1873) or translation by Lorimer; "Fasciculi Zizaniorum," ed. by W. W. Shirley (Rolls Series, 1858); "Political Songs, ed. by Wright (Rolls Series); "Chronicon Angliae," ed. by E. M. Thomson, 1874; "Piers the Plowman," and Chaucer's "Prologue"; Walsingham's "Historia Anglicana," ed. by Riley (Rolls Series); Loserth's "Wiclif und Hus" (or translation); James Baker's "Peter Payne, a great forgotten Englishman"; Palacky's "Documenta Magistri Jo. Hus vitam illustrantia" (1403-18); Wycliffe's "Wicket"; "Trialogus" (ed. by Lechler; Clar. Press); Creighton's "Papacy during the Reformation" vols. I. and II.); Seebohm's "Oxford Reformers."

These Lectures, qualifying as a full course for graduation in

Arts with Honours in History, or with Honours in English, or as a half-course for graduation in Law, will be given on Mondays, Tuesdays, and Thursdays, at 4 P.M., beginning on Tuesday, 16th October 1900. (After Christmas, on Tuesdays and Thursdays only). Students attending them may use the History Library, superintended by Mr Heatley, the Assistant in History. Mr Heatley may be consulted as to reading during six hours weekly (Winter Session),—the hours to be intimated in October. They may attend Mr Heatley's advanced course on "The English Kingship" without additional fee.

*Lecturer*—D. P. HEATLEY, *University Assistant.*

#### EUROPEAN HISTORY: 1715-1848.

A Course of Fifty Lectures on Mondays, Wednesdays, and Fridays at 11, beginning on Wednesday, 24th October.

*Summer Session, 1901.*

#### BRITISH HISTORY (General and Constitutional) : 1066-1832.

A Course of Fifty Lectures on the Political Development of Britain. First Lecture, Wednesday, May 1, 1901, at 9 A.M. For preliminary reading apply to Mr Heatley.

#### POLITICAL SCIENCE.

(Tuesdays and Thursdays, at 10.)

This Course of Twenty Lectures will treat mainly of the following subjects :—

I. GENERAL.—Political Theory as (a) absolute, (b) relative. Conditions of Political Development. The Sphere of Government, politically and historically considered. Comparison of the Ancient, the Mediæval and the Modern State.

II. HISTORY of Political Theory, with some reference to the historical conditions of each age.

III. MODERN POLITICS.—Liberty and Authority. Political Morality. Organisation of the State. Types of the Modern State. Mediate Democracy : Representation ; Legislature and Executive ; Checks on Democracy.



For preliminary reading apply to Mr Heatley. Supplementary reading will be indicated during the Course.

## FINE ART.

PROFESSOR BALDWIN BROWN.

This Course of one hundred Lectures, qualifying for the M.A. degree, is designed—

1. To bring before students, by critical descriptions and illustrations, the chief ancient and modern works of Architecture, Sculpture, Painting, and the Decorative or Industrial Arts.

2. To show how these works are connected in origin and use with the national and social life of successive epochs ; and, conversely, how Artistic Monuments illustrate Classical and Biblical literature, and bear on historical investigation in general.

3. To explain as far as practicable the technicalities of the various Arts, and to open up those aspects of Art which present themselves naturally to the artist, but are sometimes overlooked by the literary student.

On the historical side—

The characteristics of different styles and schools of Art will be broadly indicated, but this part of the subject, which can be studied from books, will not be dwelt upon at length.

On the artistic side—

Particular stress is laid on the explanation of different materials and technical processes, as upon these largely depend the particular forms in which beauty is realised in the various works of human hands.

Arrangements for the work of the Class :—There are Lectures daily at 3 P.M. Three Class examinations are held, and a series of eight Essays are set for the Cousin Prize (£15). The Essays, to the number of at least five, are included in the work required from those taking the Course for Graduation.

The Class Library, Reading Room, and collections of examples are open to members of the Class.

Museums, &c., are visited from time to time on Saturdays.

The Professor's manual, "The Fine Arts," is used, so far as it

goes, as a text-book. Other books to be read by those taking the Course for Graduation are indicated on page 135.

*Honours Courses.*

CLASSICAL ARCHÆOLOGY AND HISTORY OF  
ANCIENT ART.

This Course qualifies as an alternative subject for Honours in History. For details see page 71.

BRITISH HISTORY AS ILLUSTRATED IN  
MONUMENTS.

An Honours Course of Fifty Lectures will be given in the Winter Session, 1901-2, on British History as illustrated by monuments and topography, embracing a notice of civil and ecclesiastical works of various kinds connected with the life of Great Britain in different epochs of the middle ages. (See page 146.)

CONSTITUTIONAL LAW AND HISTORY.

PROFESSOR KIRKPATRICK.

This Course is divided into two half-courses, the first treating of the Constitutional History of England, the second treating mainly of that of the United States of America, that of France, Germany, Switzerland, etc. (see under Faculty of Law).

ECCLESIASTICAL HISTORY.

PROFESSOR TAYLOR.

(See under Faculty of Divinity.)

ROMAN LAW.

PROFESSOR MACKINTOSH.

A full Course qualifying for Graduation in Arts is given during the Winter Session. It is divided into two distinct parts.

I. HISTORY.—This Course, extending up to the Christmas vacation, includes a sketch of the Constitutional and

Legal History of Early Rome ; a survey of the primitive law in its various branches ; and a discussion of the Sources of the law, the rise and progress of Jurisprudence, Codification, and other topics belonging to the external history and the general part of the civil law. It is intended to serve as a historical introduction to the study of the special departments. The historical lectures qualify as a Half-Course for Graduation in Arts.

II. INSTITUTES.—The second half of the Course will be devoted to a systematic exposition, in detail, of the law relating to persons and the family, and to property and real rights. In general the order of Justinian's Institutes is followed.

The Lectures on Succession and Contracts are given in the Summer Session. See under Faculty of Law.

Fee for the Half-Course, £2, 2s. ; for the full Arts Course, £4, 4s.

*Text-Books.*—The Institutes of Gaius and of Justinian.

In connection with the historical lectures, students are referred to Muirhead's "Historical Introduction to the Private Law of Rome," and Maine's "Ancient Law."

## PUBLIC INTERNATIONAL LAW.

PROFESSOR SIR LUDOVIC GRANT, BART.

This Course of Forty-five class meetings commences on 8th January 1901, at 2. *Vide under Faculty of Law.*

ADVICE TO STUDENTS REGARDING CURRICULA  
IN ARTS.

1. Every intending Arts Student is advised to make himself familiar with the Regulations for Graduation in Arts before commencing his course. In particular he should make sure, in the first place, that he has complied with all the Conditions of the Preliminary Examination. He should then choose a Curriculum to suit his requirements; see that it satisfies the regulations; that he has all the qualifications necessary for entering certain Classes; and that his studies are spread over the required number of Sessions. In any case of doubt he should consult the Dean of the Faculty.

2. While Students are fully at liberty to arrange their Curricula as they deem best for their particular requirements, the Faculty of Arts strongly recommend Candidates for the *Ordinary Degree* to devote their First Session to Languages and Mathematics, and to Junior Classes when such are necessary.

The Third Session should be devoted to those subjects which presuppose a previous training in others, such as English Literature, Political Economy, Education, the advanced subjects in History, and the Law subjects.

3. Candidates for Honours Degrees are advised so to arrange their classes that they may be able to devote the whole of the year immediately preceding the Honours Examination to the special work of their Honours Group.

4. Honours Students and Students studying for special examinations, should, as early in their Course as possible, consult the Professors of the Special Subjects which they are to study. Professor Hardie is Convener of a Committee specially charged with the Supervision of those studying for the Indian and Home Civil Service Examinations.

The attention of the students referred to under this head is directed to the Summer Classes, which afford them obvious facilities for arranging their studies so as to economise time, *e.g.*, they may take Summer half-Courses in some of the subjects in which they have to pass on the standard of the Ordinary Degree.

5. For special and detailed advice as to each subject, students should consult the several Professors or Lecturers *before entering upon their Curricula*. In particular, those who intend proceeding afterwards to Degrees in Divinity, Law, Medicine, Science, or Music, should in cases of doubt, consult the Deans of these Faculties as to the most appropriate Arts Curriculum.

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# Graduation in Arts.<sup>1</sup>

*Candidates who commenced attendance on qualifying Classes before 1st October 1892 are referred to the CALENDAR for 1895-96, or previous CALENDARS.*

*The Degree admits to professional Study, to the Army, &c. It also qualifies for Masterships of Public Schools, subject to an examination in the methods of instruction, and six months' attendance in a Public School for the practice of teaching. Those who take the Schoolmaster's Diploma are now exempted from this Examination if Graduates of this University.*

## ACADEMICAL YEAR.

I. The Academic year commences on the first day of October. The winter session opens about the middle of October, and includes not less than twenty teaching weeks. The summer session opens about the beginning of May, and includes not less than ten teaching weeks.

II. The Curriculum for the degree of Master of Arts (M.A.) extends over not less than three winter sessions, or two winter sessions and three summer sessions.

## PRELIMINARY EXAMINATION.<sup>2</sup>

III. (1) Before entering on the Curriculum (subject to the *proviso* contained in Section IV., Sub-section 1) each student must pass a Preliminary Examination in the following subjects:—

1. English.
2. Latin or Greek.
3. Mathematics.
4. One of the following:—Latin or Greek (if not already taken), French, German, Italian, or such other language as the Senatus Academicus may approve,<sup>3</sup> Dynamics.

(2) The examination must be passed in the matters and on the standards hereinafter defined; but there is a higher and a lower standard in Latin, Greek, and Mathematics.

Candidates must pass on the higher standard in at least one of these three subjects, and may pass on the lower standard in either or both of the remaining two; subject always to the conditions relative to attendance contained in Section IV. hereof.

(3) English includes Grammar and Composition, and the outlines of Geography and British History, and the standard must not be lower than that presently adopted for the Higher Grade Leaving Certificate of the Scotch Education Department.

(4) Latin and Greek comprise grammatical questions, translation

<sup>1</sup> The annual amount of Matriculation, Class Fees, &c., of the regular course in Arts may be estimated at about £10, 10s. See Advice to Students regarding Curricula, page 104.

<sup>2</sup> See also additional Regulations of the Joint Board of Examiners, pages 433-438 inclusively.

<sup>3</sup> Any Candidate who proposes to be examined in a language other than those above named, is required to apply to the Senatus for approval before 1st February or 1st July for the Spring and Autumn Examinations respectively.

into English from Latin or Greek authors not previously prescribed, and translation of plain passages or easy sentences from English into Latin or Greek. The higher standard must not be lower than that formerly adopted in the examination for a Curriculum of three sessions, or for the Higher Grade Leaving Certificate of the Scotch Education Department, and the lower standard must not be lower than that presently adopted for the Lower Grade Leaving Certificate of the said Department.

(5) French, German, and Italian comprise grammatical, literary, and easy philological questions, translation into English from French, German, or Italian authors not previously prescribed, and translation from English into French, German, or Italian; and the standard must not be lower than that presently adopted for the Higher Grade Leaving Certificate of the Scotch Education Department.

(6) Mathematics on the lower standard comprises—(1) Arithmetic, including Vulgar and Decimal Fractions, Proportion, Percentage, Square Root, Simple Interest; (2) Algebra, including Fractions, Factors, Square Root, Equations of the First Degree, Simultaneous Equations of the First Degree, Easy Quadratic Equations, Problems leading to the above Equations; (3) Geometry—Euclid, Books I., II., and III. (or their equivalents), with easy deductions. Demonstrations other than Euclid's will be accepted if they assume no propositions which in Euclid's order are subsequent to the proposition under consideration.

(7) Mathematics on the higher standard, in addition, comprises Euclid, Books IV., VI., and the first twenty-one propositions of Book XI. (or their equivalents), with deductions, Quadratic Equations, Trigonometry to the solution of Triangles inclusive, and the use of Logarithmic Tables.

(8) Dynamics means the Elementary Statics and Kinetics of Solids, Liquids, and Gases.

(9) A candidate must pass in all the required subjects at one or not more than two examinations, but may offer himself for re-examination as often as may be necessary to satisfy this condition.

IV. (1) Attendance on any class does not qualify for graduation, unless the whole Preliminary Examination has been passed. But any Student who has passed in Latin, Greek, or Mathematics on the higher standard may attend a qualifying class in such subject or subjects without having passed in the other subjects of the examination, provided always that (a) no candidate will be allowed to present himself for examination in any subject qualifying for graduation until he has passed the whole Preliminary Examination, and (b) no Student will be admitted to a degree in Arts unless he has attended qualifying classes in the University granting the degree, or in another Scottish University, as provided by Section XXV. hereof, for three Academic years after he has completed his Preliminary Examination.

(2) Attendance on a class in any language included in the Prelimin-



any Examination does not qualify for graduation, unless the candidate, before entering the class, has passed the Preliminary Examination in that subject, and on the higher standard where a double standard is provided. He may, for that purpose, attend any Preliminary Examination held during the course of his study, taking only the paper set in that subject; provided always that the provisions of the subsection immediately preceding have been satisfied.<sup>1</sup>

(3) Attendance on a class in any language not included in the Preliminary Examination will not qualify for graduation, unless the candidate has previously passed an examination in that language on a standard as nearly as possible equivalent to the higher standard of the languages included in the Preliminary Examination.<sup>2</sup>

(4) Attendance on a class of Mathematics or Natural Philosophy will not qualify for graduation unless the candidate, before entering the class—in addition to the examination in Mathematics on the Lower Standard required of all students—has passed an examination in the following subjects [Intermediate Mathematics]<sup>1</sup> :—

(a) Euclid : Book VI., Propositions 1-19, or Geometry equivalent thereto.

(b) Algebra : Quadratic Equations, Ratio and Proportion.

(c) The Trigonometry of Right-angled Triangles.

(5) A student, who, having passed the Arts Preliminary Examination in accordance with these Regulations, has thereafter obtained a certificate of attendance on a qualifying class of Mathematics, will not be required to pass any further examination in Mathematics as a condition of entering on the course of study for graduation in Science.

V. (1) The Preliminary Examination is held at each University twice in each year, and is conducted in writing.

(2) The Joint Board of Examiners has power to accept the Higher Grade Leaving Certificate of the Scotch Education Department in any subject as an equivalent for the Preliminary Examination in that subject; and to accept the Lower Grade Leaving Certificate of the said Department as an equivalent for the Preliminary Examination on the lower standard in Latin, Greek, and Mathematics; provided they are satisfied that the standard of the examination, at which the said certificates were granted, is not lower than that required by these Regulations.

(3) The Joint Board has power to determine what examinations, if any, other than those for the Leaving Certificates of the Scotch

<sup>1</sup> Candidates are required to enter for examination at the usual periods and to pay the fee of 10s. 6d.

<sup>2</sup> Candidates who require to pass an examination for entering on the courses of Sanskrit, Hebrew, Arabic, Syriac, or Celtic, are required to enter their names and pay the fee of 10s. 6d. at the usual periods for entering for the Preliminary Examination.

Education Department may be accepted as equivalent to the Preliminary Examination in whole or in part, provided they are satisfied that such other Examinations are in fact equivalent thereto.

#### ORDINARY DEGREE.<sup>1</sup>

VI. Candidates for the ordinary degree of Master of Arts may follow the Curriculum and take their degree in the subjects recognised for graduation under the Universities (Scotland) Act, 1858, subject always to the preceding provisions of these Regulations; or they may vary the Curriculum for graduation under the regulations contained in the immediately succeeding sections.

VII. (1) Candidates must attend full courses in at least seven subjects, and are examined on these subjects.

(2) Of these subjects four must be (*a*) Latin or Greek (not modern Greek); (*b*) English or a Modern Language (French, German, Italian, or Spanish), or History; (*c*) Logic and Metaphysics, or Moral Philosophy; (*d*) Mathematics or Natural Philosophy.

(3) The remaining subjects may be selected by the candidate from the Departments specified in Section IX. of these Regulations, under the following condition:—That the whole subjects taken must include either (*a*) both Latin and Greek (not modern Greek), or (*b*) both Logic and Moral Philosophy, or (*c*) any two of the following three subjects,—Mathematics, Natural Philosophy, and Chemistry.

VIII. (1) Each of the subjects must be studied in a full course of not less than one hundred meetings of the class on separate days, except in cases where the Senatus, with the approval of the University Court, have sanctioned, as qualifying for graduation, half courses of not less than fifty meetings on separate days; or where the Senatus, with the approval of the said Court, may, having regard to the nature of the subject, sanction full courses of less than one hundred or half courses of less than fifty meetings respectively.

(2) Two half-courses are held to be equivalent to a full course in such cases as the Senatus, with the approval of the University Court, may determine, and under such regulations as may from time to time be made for that purpose.

(3) Where a subject is taught in a practical class, as well as in a systematic class, the Senatus, with the approval of the University Court, regulates the course of study and determines the relative proportion of lectures and laboratory or practical work.

IX. The Departments of Study for graduation in Arts in each University, if adequate instruction is provided, include the following subjects, with such additions or modifications in any University as may hereafter be made by Ordinance of the University Court:<sup>1</sup>—

<sup>1</sup> See advice to Students regarding Curricula, p. 104.

1. *Language and Literature.*

Latin.	Italian.
Greek.	Spanish.
Modern Greek.	Sanskrit.
English.	Hebrew.
French.	Arabic or Syriac.
German.	Celtic.

2. *Mental Philosophy.*

Logic and Metaphysics.	Education (Theory, History, and Art of).
Moral Philosophy.	Philosophy of Law.
Political Economy.	

3. *Science.*

Mathematics.	Zoology.
Natural Philosophy.	Botany.
Astronomy.	Geology.
Chemistry.	

4. *History and Law.*

History.	Constitutional Law and History.
Archæology and Art (History of).	Roman Law.
	Public Law.

X. Candidates who produce certificates that they have satisfied all the conditions prescribed by these Regulations, and who have passed the necessary examinations, are entitled to receive the ordinary degree of M.A. on payment of the fees required.

DEGREE WITH HONOURS.<sup>1 2</sup>

XI. (1) The degree of M.A. may be taken with Honours in any of the following Groups, in which Honours Classes have been established in at least two subjects :—

- (a) Classics (*i.e.* Latin and Greek, with optional subjects such as Comparative Philology, Ancient Philosophy, and Classical Archæology).
- (b) Mental Philosophy.
- (c) Mathematics and Natural Philosophy.
- (d) Semitic Languages.
- (e) Indian Languages.

<sup>1</sup> *Civil Service Commission Examinations.*—Candidates for Graduation in Arts with Honours are reminded that most of their subjects are admissible also in the Public Examinations held by the Civil Service Commission and other Public Examinations, on the results of which many important posts in India and at home are awarded each year. A Committee of the Senatus has been formed for the purpose of directing the studies of Students who have these examinations in view. Those who desire advice or information on this subject should apply to Professor Hardie, Convener of the above-mentioned Committee.

<sup>2</sup> See advice to Students, p. 104.

- (f) English (Language, Literature, and British History).  
English Literature is the chief subject of this group, the linguistic and historical subjects being regarded as subsidiary.
- (g) Modern Languages and Literature.
- (h) History.
- (i) Economic Science (*i.e.* Political Economy, with either (a) Moral Philosophy or (b) History as Supplementary Honours subjects).

(2) Every candidate must take up at least five subjects. Two of these subjects, under separate Professors or Lecturers, must be selected from the candidate's Honours Group; and the five subjects must include one from each of the Departments of Language and Literature, Mental Philosophy, and Science, set forth in Section IX. of these Regulations.

(3) Every candidate must attend seven Classes, taking two Classes (one of which must be an Honours Class) in each of his Honours subjects.

(4) A candidate who has obtained Honours in any one Group may, before graduating, present himself again for examination in a second Honours Group. In such a case, he will not be required to attend more than two additional Classes, which must be Honours Classes, in the second Group.

Notwithstanding the foregoing provisions of this sub-section and of Section XIV. sub-section (1) hereof, a candidate who has already graduated may present himself for examination in any Honours Group within five years from the date of his first matriculation after having passed the Preliminary Examination. If he be successful in obtaining Honours, he shall receive a special certificate stating the Honours Group in which he has presented himself, and the class he has obtained in the Group.

(5) The examination in the subjects comprised in the candidate's Honours Group must be of a higher standard than that required for the ordinary degree of M.A. In his other subjects the standard will be that required for the ordinary degree.

(6) The Senatus, subject to the provisions of Sections XVI. to XX. of these Regulations, from time to time determines what subjects are comprised in each Group, what subjects may be taken in half-courses, and in which Group they may be taken: Provided that no new Group shall be instituted except by Ordinance of the University Court.

(7) The provisions of Section VIII. of these Regulations applies to Candidates for Honours; but, in their case, not fewer than fifty meetings, on separate days, extending over an entire winter session, will constitute a full course for an Honours Class; and not fewer than twenty-five meetings on separate days, extending over half a winter session, or an entire summer session, will constitute a half course.

XII. (1) Every candidate must include Latin, or Greek, either in his Honours Group or as one of the subjects in which the standard of examination is that required for the ordinary degree of M.A.

(2) Greek is compulsory for candidates for Honours in Mental Philosophy.

(3) Candidates for Honours in English, or Modern Languages and Literature, or History, or Economic Science (Groups *f*, *g*, *h*, *i* of Section XI. hereof) must include within the whole subjects taken for their degree (*a*) Logic and Metaphysics or Moral Philosophy, and (*b*) Mathematics or Natural Philosophy.

(4) Every candidate must obtain a certificate of attendance on the class of Latin or Greek, under sub-sections (1) or (2) of this section, before he offers himself for examination in his Honours group of subjects.

(5) Candidates for Honours in Economic Science (Group *i* of Section XI. hereof), who take Moral Philosophy as their supplementary Honours subject, may take a half course in the History of Civil Law and a half course in the Philosophy of Law, which, together, shall be deemed to constitute one of the subjects in which the standard of examination is that required for the ordinary degree of Master of Arts.

Candidates for Honours in Mental Philosophy who have included Latin, but not Greek, as one of the subjects in which the standard of examination is the same as that required for the ordinary degree of Master of Arts, will be deemed to have satisfied the provisions of sub-section (2) of this section, if, before they offer themselves for the Honours Examination in Mental Philosophy, they have passed a special examination in translating into English passages from the works of Greek philosophical authors, including passages from the works of such authors not previously prescribed.

XIII. (1) The whole examination in the candidate's Honours Group must be taken at one time, and the whole examination necessary for graduation with Honours must be taken within five years from the date of the candidate's first matriculation after having passed the Preliminary Examination, unless that period shall be extended by the Senatus on special cause shown; and in every such case the Senatus must make a report to the University Court setting forth the reasons for the extension.

(2) Candidates for Honours may be examined, at any time during their Curriculum, in the three subjects in which the standard of examination is that required for the ordinary degree of M.A.

XIV. (1) A candidate who has passed the examinations necessary for the ordinary degree of M.A., but who has not yet graduated, may present himself for Honours within five years from the date of his first matriculation after having passed the Preliminary Examination, and will not be required to attend further classes:—subject always to the provisions of Section XII. hereof.

(2) No one is allowed to present himself a second time as a candidate for the degree of M.A. with Honours, who, upon examination, has failed to obtain Honours.

(3) A candidate is held to have presented himself who has notified his name for examination in accordance with the University regula-



tions. But it will be in the power of the Senatus to relax this rule on special cause shown; and in every such case the Senatus must make a report to the University Court setting forth the reasons for the relaxation.

XV. (1) In each Group there are three Grades of Honours, to be denominated respectively the First, Second, and Third Class. The names of the candidates entitled to Honours in each class are arranged in alphabetical order.

(2) For the degree of M.A. with Honours a Diploma is given setting forth the subjects in which he has taken Honours.

#### BOARDS OF STUDIES.

XVI. The Senatus of each University from time to time institutes Boards of Studies corresponding as nearly as may be to the Departments of Study enumerated in Section IX. of these Regulations.

XVII. Each Board of Studies consists of such Members of the Senatus and Lecturers in the University as the Senatus may from time to time select, and the Senatus appoints one of the Members of the Board to be Convener thereof.

XVIII. Before the end of each winter session each Professor and Lecturer in the said Departments of study must submit to the proper Board of Studies for its approval a syllabus of the subjects and books proposed for the work of his class for the next Academical year; and also a syllabus of the subjects and books to be prescribed for the Examinations for the Ordinary Degree of M.A. in the next Academical year, and for the Honours Examinations in the Academical year next but one. As soon as such approval has been given, these syllabuses must be transmitted to the Faculty of Arts for its consideration. The syllabuses, with such observations as the Faculty of Arts may see fit to make thereon, must then be transmitted to the Senatus for its sanction.

XIX. (1) Before the end of each winter session each Board of Studies must prepare a scheme, defining, for the Academical year next but one following, the classes which are deemed to be Honours Classes, and the subjects and courses of reading for Honours in its Department, and must report the same to the Faculty of Arts for its consideration. The scheme, with such observations as the Faculty of Arts may see fit to make thereon, is then transmitted to the Senatus for its sanction.

(2) Each Board must in like manner make recommendations through the Faculty of Arts to the Senatus in regard to the half-courses which may be sanctioned under these Regulations, and the lectures which may be given on special subjects.

XX. The Principal and the Dean of the Faculty of Arts are *ex officio* Members of each Board of Studies. The Convener presides, and, in his absence, each meeting appoints its own Chairman, and every Chairman has a deliberative, and, in cases of equality, a casting vote.



GENERAL.

XXI. In the case of a foreign student, whose native language is other than English, the standard required in English in the Preliminary Examination is such as the Joint Board of Examiners deems sufficient. In the case of a student, whose native language is other than European, the Senatus may accept as an alternative to Latin or Greek any other classical language, such as Sanskrit or Arabic, subject always to the provisions of Section IV., Sub-section 3 hereof.

XXII. If a student, before passing the Preliminary Examination, has attended a class qualifying for graduation, the Senatus may, on special cause shown, permit him to count such class as qualifying for graduation, on condition of his passing the full Preliminary Examination within such time thereafter as the Senatus may appoint; and in every such case the Senatus must make a report to the University Court setting forth the reasons for the relaxation.

XXIII. The examination in all the languages in the Curriculum must, as far as possible, be on the same standard in examinations for the same degree, and will in all cases test the candidate's knowledge of the history and literature of the several countries.

XXIV. A candidate for the degree of M.A. is not deemed to have attended a class as part of the Curriculum for that degree who does not present a certificate bearing not only that he has given regular attendance, but also that he has duly performed the work of the class.

XXV. A student, who has given attendance at classes recognised as qualifying for graduation during one or more sessions in any one or more of the Scottish Universities, may complete his Curriculum by giving attendance during the remainder of his course in another Scottish University, and may proceed to a degree in the latter University in the same way, in all respects as if the previous part of his Curriculum had been taken therein: Provided always that every such student must produce, to the satisfaction of the Senatus of the latter University, certificates of his having passed the Preliminary Examination, and of his attendance at the former University or Universities, and must be examined in all the subjects necessary for the degree of M.A. by the Examiners of the University in which he completes his Curriculum, and in which alone he will be allowed to graduate; and that no such student will be admitted to a degree in any University unless he has given attendance in such University during the last winter session of his Curriculum, and one other winter session or two summer sessions.

XXVI. A candidate for the degree of M.A. with Honours, who has failed to be placed in any class, may, provided that in the opinion of the Examiners he has given evidence of sufficient attainments in any subject for the ordinary degree of M.A., receive from them a certificate of having passed in such subject, which will count *pro tanto* as part of the examination required under the regulations for the ordinary degree of M.A.

XXVII. The degree of M.A. is in no case conferred on persons who have not satisfied the conditions hereinbefore set forth, and is not conferred *honoris causa tantum*.

XXVIII. A student who, at the time these Regulations came into operation, had commenced his course of study with a view to graduation in Arts in any of the Scottish Universities under the regulations in force at the time in such University, may complete his course and become a candidate for the degree of M.A., with or without Honours, in conformity with such regulations. And any such student who has passed the examination hitherto required for admission to a Curriculum of three sessions, if he desire to come under these regulations, is exempted from the Preliminary Examination herein required.

XXIX. Students may attend any classes without having passed the Preliminary Examination within the meaning of these Regulations, but such attendance will not qualify for graduation.

XXX. Attendance on classes in the Faculty of Arts in which the teaching is on the standard at present recognised for the classes hitherto known as junior or middle classes, will in no case qualify for graduation. It is competent for the University Court in each University to discontinue the Junior Classes, or Middle Classes, where such exist, in Latin, Greek, and Mathematics, when, in the opinion of the Court, the provision for Secondary Education in schools throughout the country is sufficient to render such classes no longer necessary.

XXXI. Ordinances numbered 12, 14, 18, and 69 of the Commissioners under the Universities (Scotland) Act, 1858, as altered under the provisions of the said Act, are repealed, in so far as they are inconsistent with these Regulations.

#### GRADUATION OF WOMEN.

I. It is in the power of the University Court to admit women to graduation.

II. The conditions for graduation are the same for women as for men, subject to the following modifications, which have effect until provision is made for the instruction of women in all subjects qualifying for graduation in which provision is made for the instruction of men:—

(1) Section XXV. of Regulations for Degrees in Arts is not applicable to the graduation of women in Arts.

(2) So long as within the Faculty provision is not made for the instruction of women in any subject qualifying for graduation in which provision is made for the instruction of men, it is in the power of the University Court to admit to graduation women who have received the requisite instruction in that subject in any Scottish University, or from any teacher or in any Institution, within the University town, recognised for the purposes of graduation by the University Court: Provided always that every candidate for graduation produces evidence of having

satisfied the conditions with respect to the Preliminary Examination, and be examined in all the subjects necessary for graduation by the Examiners of the University.

III. So soon as within the University provision is made for the instruction of women in all subjects qualifying for graduation in which provision is made for the instruction of men, the conditions for the graduation of women shall be the same as the conditions for the graduation of men.

IV. (1) Women who may attend classes in the University must matriculate, paying a fee of the same amount as that exigible for other students. (2) Women, who are candidates for graduation but not matriculated students, and who may attend classes within a University town, under the provisions of Section II. (2) hereof, must, at the commencement of each year of such attendance, enrol their names in a book to be kept in the University for that purpose, paying a Fee of the same amount as the Matriculation Fee paid by students of the University and having, in respect of such payment, a right to the use of the Library of the University.

#### ADDITIONAL REGULATIONS BY THE UNIVERSITY COURT.<sup>1</sup>

Any Woman who has received the requisite instruction in Chemistry, Botany, and Zoology in any Scottish University, or in the Medical College for Women, Chambers Street, Edinburgh, will (subject to the provisions of Ordinance No. 18, General No. 9, Regulations for the Graduation of Women,<sup>2</sup> &c.) be admitted to Examination in these subjects for Graduation in Arts. Women may attend within the University the advanced Courses in Botany and Zoology, and the Advanced Lecture Courses in the Chemistry Department.

#### REGULATIONS FOR SPECIAL STUDY AND RESEARCH, FOR APPOINTMENT OF RESEARCH FELLOWS, &c.

I. It is in the power of the Senatus Academicus, with the approval of the University Court, to make regulations under which graduates of Scottish Universities, or of other Universities recognised by the University Court for the purposes hereof, or other persons who have given satisfactory proof of general education and of fitness to engage in some special study or research, may be admitted to prosecute such study or research in the University.

<sup>1</sup> Extra Academic Teachers in Edinburgh, whose Lectures qualify Women Students for Graduation in Arts in this University :—

T. W. Drinkwater, Ph.D., Chemistry and Practical Chemistry, 17th December 1894.

Robert Turnbull, B.Sc., Botany, 17th June 1895.

<sup>2</sup> See Ordinance Appendix to CALENDAR, 1892-93, page 51.

II. It is the duty of the *Senatus Academicus*—

- (1) To receive and decide upon all applications for admission to prosecute special study or research.
- (2) To prepare a list of all persons so admitted (hereinafter referred to as Research Students).
- (3) To make regulations for the supervision of their work.
- (4) To satisfy themselves from time to time that the Research Students are carrying on their work in the University in a satisfactory manner.
- (5) To suspend or exclude from any course any student whose conduct or progress is unsatisfactory.

III. Every applicant for admission must send in to the *Senatus Academicus* a written application stating any degree or other distinction which he has already obtained, the line of study or research which he wishes to prosecute and the probable period of its duration, together with evidence as to his character, capacity, and general qualifications.

IV. An application for admission is in the first instance referred by the *Senatus* to the appropriate Faculty, or to a Committee appointed by the *Senatus*; one member of the Committee shall always be a Professor or Lecturer within whose department the proposed line of study or research falls. No applicant shall be recommended by the Faculty or the Committee who has not satisfied them by examination or otherwise that he is qualified to prosecute the proposed line of study or research, and further—

- (a) That his proposed line of study or research is a fit and proper one;
- (b) That he possesses a good general education;
- (c) That he is of good character;
- (d) That he proposes to prosecute his studies or research during a period to be approved by the *Senatus*.

The Faculty or the Committee shall make a report to the *Senatus* upon each application. It is also their duty, subject to the regulations of the *Senatus*, to provide for the supervision of the Research Student's work, and to report at least once a year to the *Senatus* as to his progress and conduct. The *Senatus* shall then determine whether he shall remain a Research Student.

V. Every Research Student is required to matriculate each year, paying the ordinary fee.

VI. Research Students have access to and the use of the University Laboratories and Museums, under such conditions as to payment and otherwise as the University Court, after consultation with the *Senatus*, may determine.

VII. The title of Research Fellow may be conferred by the *Senatus*, with the approval of the University Court, on Research Students who have shown special distinction. Such title shall not of itself confer any right to stipend, but it shall be in the power of the University Court to provide a stipend of such amount and for such period as it may think

fit to any Research Fellow under the powers of Section XI., Sub-section 8, of Ordinance 27.

VIII. (1) The Research Fellows shall be appointed as aforesaid after consideration of the report or reports submitted in terms of Section IV. hereof.

(2) The title of Research Fellow may be conferred either at the commencement of the Research Student's course of study or research, or at any time during its progress, as the Senatus may determine.

(3) Research Fellows shall retain their title and stipend, if any, for the period during which they are engaged in special study or research in the University, and no longer.

(4) Research Students who have been appointed Research Fellows shall continue to be subject to the conditions above prescribed as to the supervision of their work and the reports to be made thereon.

IX. Nothing herein contained shall prejudice the right of Research Students to such Fellowships, Scholarships, or Prizes as may be open to them by Ordinance or Deed of Foundation.

X. The University Court may, subject to the provisions of Section XI., Sub-section 8, of Ordinance 27, provide such sums as it may think fit in aid of the expenses of Special Study or Research.

#### REGULATIONS FOR HIGHER DEGREES IN ARTS AND SCIENCE. DEGREE OF D.Sc.

I. Graduates who have taken the degree of Master of Arts in any Scottish University with first or second class honours in Mathematics and Natural Philosophy under the conditions prescribed by the Regulations for Degrees in Arts, or under the Regulations previously in force in such University, may offer themselves for the degree of Doctor of Science (D.Sc.) in the same University after the expiry of five years from the date of their graduation in Arts, under the same conditions as if they held the degree of Bachelor of Science.

II. Research Students within the meaning of the Regulations for the Encouragement of Special Study and Research, and for the appointment of Research Fellows may offer themselves for the degree of D.Sc. of the University in which they have prosecuted some special study or research under those Regulations, although they have not taken the degree of B.Sc. or the degree of M.A. with honours as aforesaid in that University ; provided—

(1) That they hold the degree of B.Sc. or M.B. of a Scottish or any recognised University, or a degree of any such University, which the Senatus shall hold to be equivalent to the degree of B.Sc. or to the degree of M.A. with first or second class honours in Mathematics and Natural Philosophy ; provided that candidates who hold any such degree from a University outside the United Kingdom may be required,



if the Senatus think fit, before beginning their course as Research Students with a view to the degree of D.Sc., to pass an examination equivalent to an Honours or to a Final Science examination in a group of subjects cognate to their line of work as Research Students.

(2) That they have spent not less than two winter sessions or an equivalent period as Research Students in the University granting the degree, and that they produce evidence of satisfactory progress in the special study or research undertaken by them during that period.

(3) That a period of not less than five years shall have elapsed from the date of the graduation required in sub-section (1) of this section.

III. All candidates for the degree of D.Sc. shall present a thesis or a published memoir or work,<sup>1</sup> to be approved by the Senatus on the recommendation of the Faculty of Science; provided that, if required by the Senatus, the candidate shall also be bound to pass such an examination conducted orally or practically, or by written papers, or by all of these methods, on the subjects of his special study or of his thesis, as may from time to time be determined. The thesis shall be a record of original research undertaken by the candidate, and shall be accompanied by a declaration signed by him that the work has been done and the thesis composed by himself.

#### DEGREE OF D.PHIL.

IV. Graduates who have taken the degree of M.A. in any Scottish University with first or second class honours in Mental Philosophy, under the conditions prescribed by Ordinance No. 11 [General No. 6—Regulations for Degrees in Arts], or under the Regulations previously in force in such University, may offer themselves for the degree of Doctor of Philosophy (D.Phil.) in the same University after the expiry of five years from the date of such graduation.

V. Research Students as aforesaid may offer themselves for the degree of D.Phil. of the University in which they have prosecuted some special study under Ordinance No. 61 [General, No. 23—Regulations for the Encouragement of Special Study and Research, and for the appointment of Research Fellows], although they have not taken the degree of M.A. with honours as aforesaid in that University; provided—

(1) That they hold the degree of M.A. with first or second class honours in Mental Philosophy of any Scottish University, or a degree of any recognised University, which the Senatus shall hold to be equivalent to such degree with honours as aforesaid; provided that candidates who hold such a degree from a University outside the United Kingdom may be required, if the Senatus think fit, before beginning their course as Research Students, with a view to the degree of D.Phil., to pass an examination equivalent to an honours examination in a group of subjects cognate to their line of work as Research Students.

<sup>1</sup> The Thesis must be lodged and the fees paid before 1st December.



(2) That they have spent no less than two winter sessions or an equivalent period as Research Students in the University granting the degree, and produce evidence of satisfactory progress in the special study undertaken by them during that period.

(3) That a period of not less than five years shall have elapsed from the date of the graduation required in sub-section (1) of this section.

VI. All candidates for the degree of D.Phil. shall present a thesis or a published memoir or work,<sup>1</sup> which shall be an original contribution to learning, to be approved by the Senatus on the recommendation of a Committee appointed by the Senatus; provided that, if required by the Senatus, a candidate shall also be bound to pass such examination, conducted orally or otherwise, on the subject of his thesis or of his special study as may from time to time be determined. The thesis, or memoir, or work shall be accompanied by a declaration signed by the candidate that it has been composed by himself. If the thesis has not already been published, it shall be published by the candidate in such manner as the Senatus shall approve.

#### DEGREE OF D.LITT.

VII. Graduates who have taken the degree of M.A. in any Scottish University with first or second class honours in any group other than Mathematics and Natural Philosophy or Mental Philosophy, under the conditions prescribed by Ordinance No. 11 [General No. 6—Regulations for Degrees in Arts], or under the Regulations previously in force in such University, may offer themselves for the degree of Doctor of Letters (D.Litt.) in the same University after the expiry of five years from the date of such graduation.

VIII. Research Students as aforesaid may offer themselves for the degree of D.Litt. of the University in which they have prosecuted some special study under Ordinance No. 61 [General No. 23—Regulations for the Encouragement of Special Study and Research, and for the appointment of Research Fellows], although they have not taken the degree of M.A. with honours as aforesaid in that University; provided—

(1) That they hold the degree of M.A. with first or second class honours in any group except Mathematics and Natural Philosophy or Mental Philosophy of any Scottish University, or a degree of any recognised University, which the Senatus shall hold to be equivalent to such degree with honours as aforesaid; provided that candidates who hold such a degree from a University outside the United Kingdom may be required, if the Senatus think fit, before beginning their course as Research Students with a view to the degree of D.Litt., to pass an examination equivalent to an honours examination in a group of subjects cognate to their line of work as Research Students.

(2) That they have spent not less than two winter sessions or an equivalent period as Research Students in the University granting the

<sup>1</sup> The Thesis must be lodged and the fees paid before 1st December.

degree, and produce evidence of satisfactory progress in the special study undertaken by them during that period.

(3) That a period of not less than five years shall have elapsed from the date of the graduation required in sub-section (1) of this section.

IX. All candidates for the degree of D.Litt. shall present a thesis or a published memoir or work,<sup>1</sup> which shall be an original contribution to learning, to be approved by the Senatus on the recommendation of a Committee appointed by the Senatus; provided that, if required by the Senatus, a candidate shall also be bound to pass such examination, conducted orally or otherwise, on the subject of his thesis or of his special study as may from time to time be determined. The thesis, or memoir, or work shall be accompanied by a declaration signed by the candidate that it has been composed by himself. If the thesis has not already been published, it shall be published by the candidate in such manner as the Senatus shall approve.

#### GENERAL.

X. Notwithstanding and in supplement of the Regulations as to Examinations, sections XIV. and XV., the Senatus Academicus in each University shall appoint such Professors or Lecturers as it may think suitable to conduct the examination of candidates who may offer themselves under the Regulations for Degrees in Science, or of these Regulations for the Degree of Doctor of Science, Doctor of Philosophy, or Doctor of Letters; and the University Court shall, after consultation with the Senatus Academicus, appoint an additional Examiner to act along with them. Such additional Examiner shall be a person of recognised eminence in the subject of the thesis, or memoir, or work which is to be submitted for approval. The result of the examination shall be reported to the appropriate Faculty or Committee of Senatus.

XI. The degrees of D.Sc. in Mental Science or D.Sc. in Philology shall no longer be conferred by any Scottish University.

XII. Candidates who have already completed the necessary attendance on classes required for the degree of D.Sc. in Mental Science or D.Sc. in Philology, under regulations hitherto in force in any Scottish University, may proceed to the degree of D.Phil., or of D.Litt., as the case may be, under this Ordinance:—provided such candidates comply with the provisions of Section VI. or Section IX. hereof, as the case may be, and that a period of not less than five years shall have elapsed from the date of their graduation as M.A.

XIII. The degrees of D.Sc., D.Phil., and D.Litt. shall in no case be conferred on persons who have not satisfied the conditions hereinbefore set forth, and shall not be conferred *honoris causa tantum*.

The fee to be paid for Examination for each of the degrees of D.Sc.,

<sup>1</sup> The Thesis must be lodged and the fees paid before 1st December.

D.Phil., and D.Litt. is ten guineas, payable when the thesis is lodged,<sup>1</sup> and the fee for each re-examination for each of the Degrees is £5, 5s.<sup>1</sup>

Candidates for Examination or Graduation must pay the Matriculation fee of £1, 1s.<sup>1</sup> Candidates for Graduation are required to enter their names and (if not previously registered) to pay the Registration fee ten days before the date of the Graduation Ceremonial.

#### TIME-TABLES OF EXAMINATIONS AND DATES FOR PRESENTING CERTIFICATES AND FOR PAYMENT OF FEES.

*Candidates are required to enter for each periodical Examination at which they desire to appear, and to state the subject or subjects in which they desire to be examined.*

The dates of the Examinations for 1900-1901 have been fixed as follows, and Candidates are required to assemble in the Examination Hall at the University a quarter of an hour before the time fixed for examination.

#### PRELIMINARY EXAMINATION.

The Preliminary Examinations are held in the Examination Hall in the University, in autumn and spring.

Each Candidate must pay a fee of 10s. 6d. for each appearance at the Preliminary Examination.

Candidates may obtain Schedules at the Matriculation Office, University (Old) Buildings, on and after 10th September 1900, and on and after 15th February 1901. The Schedules must be completed and lodged, along with the fees, not later than 19th September 1900 and 1st March 1901 for the autumn and spring Examinations respectively.

Candidates may pay the fees personally or transmit them to T. GILBERT, University, Edinburgh, by *Post Office* or *Postal Orders*, or by *Bank Drafts*, crossed Union Bank of Scotland (Hunter Square Branch), Edinburgh, but not by cheques on private accounts. When names are not entered and fees paid, or a Pass to the Examination obtained where the fee has been previously paid, on or before the stated dates, an additional or late-entry fee of 10s. must be paid before the Candidate can be admitted to the Examination. This fee will not be received after Twelve o'clock of the last day but one preceding the Examination for which the Candidate desires to appear, without the express permission of the Dean of his Faculty and the subsequent sanction of the Senatus. A Candidate must enter his name and pay the fee, or, when the fee has been previously paid, obtain a Pass, for each periodical Examination at which he desires to appear. A Candidate is not held to be entered until his Schedule is lodged, the Fee paid, and a Pass to the Examination obtained.

<sup>1</sup> The Thesis must be lodged and the fees paid before 1st December.

## TIME-TABLES FOR PRELIMINARY EXAMINATIONS FOR ARTS, SCIENCE, MEDICINE, AND MUSIC, AND FOR BURSARY EXAMINATIONS, 1900-1901.

		Medical Preliminary Examinations.			Arts, Science, Law (B.L.), and Music Preliminary Examinations and Bursary Examinations.
1900.					
Sept. 27	Thur.	...	...	...	Additional French for Ordinary Bursaries, <sup>1</sup> 2-3.30 Do. German do., <sup>1</sup> 3.30-5 Do. English do., <sup>1</sup> 9-12
,,	28 Fri.	...	...	...	Italian, <sup>14</sup> 12-1.30, 3-5 English, <sup>134</sup> 9-11, 12-2 Lower Greek, <sup>34</sup> 3-6 Anglo - Saxon, for Patterson Bursary, <sup>5</sup> 9-12, 2-5
,,	29 Sat.	English, 9-12			
		Greek, 3-6 Do., <sup>2</sup> 3-5			
Oct. 1	Mon.	Latin, 9-12 Mathematics, 2-5			Lower Latin, <sup>34</sup> 9-12 Lower Mathematics, <sup>34</sup> 2-5 Higher Latin, <sup>1</sup> 9-11, 12-2
,,	2 Tu.	French, 3-6 Do., <sup>2</sup> 3-5			Latin for Second and Third Year Bursaries, 9-12 French, 1st paper, <sup>14</sup> 3-4.30 Higher Greek, <sup>1</sup> 9-11, 12-2
,,	3 Wed.	German, 3-6 Do., <sup>2</sup> 3-5			Greek for Second and Third Year Bursaries, 2.30-5.30 German, 1st paper, <sup>14</sup> 3-4.30
,,	4 Thur.	Higher Mathematics, <sup>2</sup> 9-11, 12-2			Intermediate and Higher Mathematics, and Mathematics for First, Second, and Third Year Bursaries, <sup>1</sup> 9-11, 12-2 French, 2nd paper, <sup>14</sup> 3-5
,,	5 Fri.	Moral Philosophy, <sup>2</sup> 9-11			German, 2nd paper, <sup>14</sup> 9-11

<sup>1</sup> Papers for the University Ordinary First Year Bursary Examination, for the Heriot University Bursaries both for men and for women, and for the Bursaries offered by the Edinburgh Association for the University Education of Women.

The Papers for the Heriot University Bursaries for Women Students of Medicine, and the Preliminary Examination Papers pure and simple: candidates for these Bursaries as such are not required to take any of the additional Bursary Papers.

<sup>2</sup> For Students under the Old Regulations.

<sup>3</sup> Papers for the Preferential Bursary Examination.

<sup>4</sup> Papers for Music Preliminary: for Italian for Music Preliminary half-an-hour more will be allowed.

<sup>5</sup> Not open in 1900

		Medical Preliminary Examinations.	Arts, Science, Law (B.L.), and Music Preliminary Examinations and Bursary Examinations.
1900.			
Oct. 5	Fri.	Mechanics, <sup>2</sup> 1-4	Dynamics, <sup>1</sup> 1-4 Logic and Psychology for Third Year Bursaries, 1-4
„ 6	Sat.	Natural Philosophy, <sup>2</sup> 9-11 Logic, <sup>2</sup> 2-4	Elementary Physics, <sup>3</sup> 9-11 Logic, <sup>3</sup> 2-4 Additional Latin and Greek for Ordinary Bursaries, <sup>1</sup> 9-12 Classics for Second and Third Year Bursaries, 9-12 Additional Mathematics for Ordinary Bursaries, and for Second and Third Year Bursaries, <sup>1</sup> 2-5
„ 8	Mon.	... ..	Sanskrit, Hebrew, Arabic, Syriac, Celtic. (See § IV. (3) of Regulations).—9-12 Higher Geometry for John Welsh Bursaries and for Kelland Prize, 9-12 Gaelic for Mackinnon and Ardvorlich <sup>4</sup> Bursary, 12-9 Chemistry (Baxter of Balgavies Bursary), 9-11
„ 12	Fri.	MEETING OF JOINT BOARD } At 10 A.M. MEETING OF JOINT BOARD } each day. CLASSES OPEN.	
„ 13	Sat.		
„ 16	Tu.		
1901.			
Mar. 29	Fri.	... ..	Italian, <sup>3</sup> 12-1.30, 3-5
„ 30	Sat.	English, 9-12 Greek, 3-6 Do., <sup>2</sup> 3-5	English, <sup>3</sup> 9-11, 12-2 Lower Greek, <sup>3</sup> 3-6
April 1	Mon.	Latin, 9-12 Mathematics, 2-5	Lower Latin, <sup>3</sup> 9-12 Lower Mathematics, <sup>2</sup> 2-5
„ 2	Tu.	French, 3-6 Do., <sup>2</sup> 3-5	Higher Latin, 9-11, 12-2 French, 1st paper, <sup>3</sup> 3-4.30

<sup>1</sup> Papers for the University Ordinary First Year Bursary Examination, for the Heriot University Bursaries both for men and for women, and for the Bursaries offered by the Edinburgh Association for the University Education of Women.

The Papers for the Heriot University Bursaries for Women Students of Medicine are the Preliminary Examination Papers pure and simple: candidates for these Bursaries as such are not required to take any of the additional Bursary Papers.

<sup>2</sup> For Students under the Old Regulations.

Papers for Music Preliminary.

<sup>4</sup> Ardvorlich not open in 1900.

			Medical Preliminary Examinations.	Arts, Science, Law (B.L.), and Music Preliminary Examinations and Bursary Examinations.
1901.				
April	3	Wed.	German, 3-6 Do., <sup>1</sup> 3-5	Higher Greek, 9-11, 12-2 German, 1st paper, <sup>2</sup> 3-4.30
"	4	Thur.	Higher Mathematics, <sup>1</sup> 9-11, 12-2	Intermediate and Higher Mathematics, 9-11, 12-2 French, 2nd paper, <sup>2</sup> 3-5
"	5	Fri.	Moral Philosophy, <sup>1</sup> 9-11 Mechanics, <sup>1</sup> 1-4	German, 2nd paper, <sup>2</sup> 9-11 Dynamics, 1-4
"	6	Sat.	Natural Philosophy, <sup>1</sup> 9-11 Logic, <sup>1</sup> 2-4	Elementary Physics, <sup>2</sup> 9-11 Logic, <sup>2</sup> 2-4
"	12	Fri.	MEETING OF JOINT BOARD } At 10 A.M. MEETING OF JOINT BOARD } each day.	
"	13	Sat.		

## FEES FOR DEGREE OF M.A.

Candidates for the Ordinary Degree pay for each of the subjects of Astronomy, Chemistry, Zoology, Botany, or Geology £1, 1s., and for each of the other subjects 15s.

Those who fail in the Examinations pay 10s. 6d. for re-examination in each subject.

Candidates for the Degree, with Honours, pay the same total fees as for the Ordinary Degree.

DEGREE EXAMINATIONS.<sup>3</sup>

*Candidates are required to enter for each periodical Examination at which they desire to appear, and to state the subject or subjects in which they desire to be examined.*

Candidates may obtain Schedules at the Matriculation Office. Schedules must be lodged, Certificates shown, and Fees paid as follows :—

<sup>1</sup> For Students under the Old Regulations.

<sup>2</sup> Music Preliminary : for Italian for Music Preliminary half-an-hour more will be allowed.

<sup>3</sup> When names are not entered and fees paid, or a Pass to the Examination obtained where the fee has been previously paid, on or before the stated dates, an additional or late-entry fee of ten shillings must be paid before the Candidate can be admitted to examination. This fee will not be received after twelve o'clock of the last day but one preceding the Examination for which the Candidate desires to appear, without the express permission of the Dean of his Faculty and the subsequent sanction of the Senatus. A Candidate must enter his Name and pay the Fee, or, when the Fee has been previously paid, obtain a Pass, for each periodical Examination at which he desires to appear.



1. For the Examinations in October 1900, *not later than 4th October*.<sup>1</sup>

2. For the Examinations in Spring 1901 Schedules must be lodged<sup>1</sup> and Fees paid *not later than 5th March*, and the Matriculation Tickets and Class Certificates must be shown as follows :—For the Examinations in March at least *two clear days before* the date of the Examination in each subject ; for the Examinations in April, *not later than 30th March*.

3. For the Examinations in Chemistry, Zoology, Botany, and Geology in Summer 1901, Schedules must be lodged and Fees paid *not later than 5th July*, and Certificates shown on *Wednesday, 17th July*.

When the Candidate has exhibited his Matriculation Tickets and the Certificates for Examination, the Clerk will stamp on the Receipt for the Fee the words, "Certificates examined," which entitle the Candidate to admission to the Examination Hall.

Candidates for Examination or for Graduation must be Matriculated Students of the Academic year.

Every Candidate for Graduation must produce certificates of having passed the necessary Examinations and pay the Fee of £1 for Registration as a Member of the General Council *at least one clear day before the date of Graduation*.<sup>2</sup>

The fees for Matriculation, Examinations for Degrees, and Registration of Graduates as Members of the General Council, are payable at the Matriculation Office, University. Candidates may pay the fees personally, or transmit them to T. GILBERT, University, Edinburgh, by *Post Office* or *Postal Orders*, or by *Bank Drafts*, crossed "*Union Bank of Scotland (Hunter Square Branch), Edinburgh*," but not by cheques on private accounts.

Degrees are conferred by the Chancellor or the Vice-Chancellor of the University. They are not conferred *in absentia*, except on very special cause shown. Candidates must appear in Academic costume, with the appropriate hood.<sup>3</sup>

<sup>1</sup> Candidates for Special Examination in Greek for Honours in Mental Philosophy must enter their names, and state which dialogue of Plato they offer, one month before the date of the examination.

<sup>2</sup> See footnote 3, page 124.

<sup>3</sup> Black silk lined with *white*.

## TIME-TABLES FOR M.A. EXAMINATIONS FOR 1900-1901.

		M.A. Examinations. <sup>1</sup>	M.A. Honours Examinations. <sup>1</sup>
1900.			
Oct. 9	Tu.	English, 9-11, 11.30-1.30 Latin, 2.30-4.30	
,, 10	Wed.	Latin, 9-11 Greek, 11.30-1.30 <sup>2</sup> , 2.30-4.30	
,, 11	Th.	Mathematics, 9-11, 11.30-1.30 Natural Philosophy, 2.30-4.30	
,, 12	Fri.	Natural Philosophy, 9-11 Logic, 11.30-1.30, 2.30-4.30	
,, 13	Sat.	Moral Philosophy, 9-11, 11.30-1.30 History, 2-4	
,, 15	Mon.	History, 9-11 French, 11.30-1.30, 2-4	
,, 16	Tu.	CLASSES OPEN German, 9-11, 11.30-1.30 Essay, 2-3 French Essay, 3-4	
,, 29	Mon.	Education, 9-11 (M.A. & Diploma) Constitutional Law & History, 2-4	
,, 30	Tu.	Education, 9-11 (M.A. & Diploma); (Diploma) 11.30-1.30 Roman Law, 9-1 Constitutional Law & History, 2-4	
Nov. 1	Th.	Philosophy of Law, 9-11 Public International Law, 11.30-1.30 Political Economy, 2-4	
,, 2	Fri.	Political Economy, 9-11	
1901.			
Mar. 18	Mon.	Constitutional Law & History, 2-4	
,, 19	Tu.	Roman Law, 9-1 Constitutional Law & History, 2-4	
,, 21	Th.	Philosophy of Law, 9-11 Public International Law, 11.30-1.30 Sanskrit, 9-11, 11.30-1.30 Arabic and Syriac, 9-11, 11.30-1.30	

NOTE.—In the Examinations for the Degree of M.A. in Roman Law, Public Law, and Constitutional Law and History, candidates who intend to proceed later to the Degree of LL.B. must pass on the LL.B. standard.

<sup>1</sup> It is impossible to avoid clashing between the hours of Examinations in the Pass subjects and in the Honours and the Scholarship subjects. Candidates should carefully consider early in their Curriculum the arrangements for these Examinations, in order, as far as possible, to avoid clashing.

<sup>2</sup> Also for Candidates for Honours in Mental Philosophy who have not included Greek as a Subject in the Examinations for the ordinary Degree of M.A.

		M.A. Examinations. <sup>1</sup>	M.A. Honours Examinations. <sup>1</sup>
1901.			
Mar. 21	Th.	Political Economy, 5-7	
„ 22	Fri.	Political Economy, 5-7	
„ 23	Sat.	Practical Chemistry, at hours to be announced (also on subsequent days if necessary).	
„ 25	Mon.	Chemistry, 10-12 Geology, 1-3 Oral Examinations in Science Subjects may begin	
„ 26	Tu.	Botany, 10-12 Zoology, 1-3	
„ 27	Wed.	Celtic, 9-11, 11.30-1.30 Hebrew, 2.30-4.30	
„ 28	Th.	Hebrew, 9-11 Astronomy, 11.30-1.30, 2.30-4.30	
„ 29	Fri.	Education (M.A. and Diploma) 9-11, 11.30-1.30 Archæology and Art, 3-5	Economic Science, 9-12 2-5
„ 30	Sat.	Archæology and Art, 9-11 English, 11.30-1.30, 2-4 Educn. for Sch'lmaster's Diploma, only (3rd paper), 9-11	Economic Science, 9-12
Apr. 1	Mon.	Logic, 9-11 History, 12-2, 3-5	English (Lit.), 9-12, 2-5 History (Constit.), 9-12, 2-5
„ 2	Tu.	Latin, 9-11, 11.30-1.30 Logic, 3-5	English (Lit.), 9-12, 2-5 History (Constit.), 9-12, 2-5 Classics (Optional Subjects), 9-12, 2-5 Pure Mathematics, 9-12
„ 3	Wed.	Greek, 9-11, <sup>2</sup> 11.30-1.30 Mathematics, 3-5	English (Lang.), 9-12, 2-5 Classics, 9-12, 2-5 Modern Languages, 9-12, 2-5 Logic, 9-12, 2-5 Pure Mathematics, 9-12, 2-5 History, 9-12, 2-5
„ 4	Th.	Mathematics, 9-11 Moral Philosophy, 11.30-1.30, 3-5	English (Hist.), 9-12, 2-5 Classics, 9-12, 2-5 Modern Langs., 9-12, 2-5

<sup>1</sup> The order of the papers set at the particular hours fixed for the general Honours Subjects, within any department or group, may be varied at the discretion of the Examiners. See footnote 1, page 126.

<sup>2</sup> See footnote 2, page 126.

128 *Graduation in Arts—Pass Examinations, 1900-1901.*

		M.A. Examinations. <sup>1</sup>	M.A. Honours Examinations. <sup>1</sup>
1901.			
Apr. 4	Th.		Logic, 9-12 Moral Philosophy, 2-5 Pure Mathematics, 9-12 Natural Philosophy, 2-5 History, 9-12, 2-5 Classics, 9-12, 2-5
„ 5	Fri.	Natural Philosophy, 9-11, 11.30-1.30	Mod. Languages, 9-12, 2-5 Moral Philosophy, 9-12, 2-5 Natl. Philosophy, 9-12, 2-5 History of Art, 9-12, 2-5 Classics, 9-12, 2-5 Modern Languages, 9-12
„ 6	Sat.	French, 9-11, 11.30 1.30 Essay, 2-3	
„ 8	Mon.	German, 9-11, 11.30-1.30 German Essay, 2-3	
„ 10	Wed.	MEETING OF M.A. EXAMINERS FOR OLD SUBJECTS.	
„ 12	Fri.	MEETING OF JOINT BOARD	} At 10 A.M. each day.
„ 13	Sat.	MEETING OF JOINT BOARD	
		{ GRADUATION	CEREMONIAL at 10 A.M.
		{ COMMEMORATION SERVICE	at 12 noon.
July 18	Th.	Practical Chemistry, at hours to be afterwards announced (also on following days, if necessary).	
„ 19	Fri.	Chemistry, 10-12 Geology, 1-3 Oral Examinations in Science Subjects may begin	
„ 20	Sat.	Botany, 10-12 Zoology, 1-3	
„ 27	Sat.	GRADUATION CEREMONIAL.	

PASS EXAMINATIONS FOR MASTER OF ARTS.

(See Time-Tables, Pages 126-128.)

The subjects for the Examinations for the Ordinary Degree  
October 1900 and April 1901 are as follows:—

I.—DEPARTMENT OF LANGUAGE AND LITERATURE.

1. *Latin for October 1900 and April 1901.*

Virgil, *Æneid*, v., vi.—Horace, *Odes*, iii. ; and *Epistles*, ii.—Cicero,  
*In Verrem*, iv.—Tacitus, *Annals*, iv.

<sup>1</sup> See footnote 1, page 127. See also footnote 1, page 126.

Translation from an Author or Authors not prescribed. Latin prose composition.

*Roman History.*—A general knowledge of Roman History to the death of Tiberius, and a special knowledge of the periods 80-44 B.C., and 14-37 A.D.

*Roman Literature.*—A general knowledge of the course of Roman Literature to the death of Trajan, and a special knowledge of the Lives and Works of Virgil, Horace, Cicero, and Tacitus.

*Every Candidate is required to satisfy the Examiners in translating English into Latin prose.*

2. *Greek for October 1900 and April 1901.*

Homer, *Iliad*, xix.—Aeschylus, *Prom. Vinc.*—Thucyd., i.—Plato, *Republic*, vi. Translation from an Author or Authors not prescribed. Greek prose composition.

*Greek History.*—A general knowledge of Greek History to the death of Alexander, and a more special knowledge of the period of the Peloponnesian War.

*Greek Literature.*—A general knowledge of Greek Literature to the end of the 4th cent. B.C., and a more special knowledge of the prescribed Authors.

Laws of Hexameter and Iambic verse.

3. *English for October 1900 and for April and October 1901.*

The Principles of English Composition and Style: Class Lectures. History of the English Language: The First Five Chapters of Morris's "Historical Outlines of English Accidence." History of English Literature: Lectures, with the Professor's "Short History of English Literature," and the portions of Hallam's "Literature of Europe" that relate to English writers.

*Special Books for October 1900*—Shakespeare, *Tempest* and *Much Ado About Nothing*—Chaucer, *Prioress's Tale* and *Sir Thopas*—Spenser, *Faerie Queene*, Book i.—Milton, Poems before *Comus*—Dryden, *Essay of Dramatic Poesy*—Swift, *Battle of the Books*—Collins, *Poems*—Landor, *Selections*—Tennyson, *The Princess*.

*Special Books for April and October 1901*—Shakespeare, *Macbeth* and *A Midsummer Night's Dream*—Chaucer, *Squires Tale*—Spenser, *Faerie Queene*, Book ii.—Milton, *Comus* and *Lycidas*—Dryden, *Selected Poems*—Pope, *Selected Satires* and *Epistles*—Johnson, *Lives of Pope* and *Dryden*—Wordsworth, *Selections*—Browning, *Dramatis Personæ*.

4. *French for October 1900.*

Corneille, *Cinna*, *Polyeucte*—Molière, *Misanthrope*, *Femmes Savantes*—Racine, *Britannicus*, *Phèdre*, *Athalie*—V. Hugo, *Extraits*—Clédat, *Morceaux choisis des Auteurs au Moyen-Age*—Taine, *Extraits*—Pascal, *Pensées*—Faguet, *18<sup>e</sup> Siècle*—Lanson, *Littérature*—Montaigne, *Essais*—Rambaud, *Civilisation Contemporaine*.

Passages from French Authors not prescribed. French prose composition. A general knowledge of the development of the French

language. A general knowledge of French history, and of the history of French Literature, with a more minute knowledge of the period 1680-1780.

*Every Candidate is required to satisfy the Examiners in translating English into French prose.*

*French for April and October 1901.*

Brachet, *Morceaux choisis du 16<sup>e</sup> Siècle* (Hachette)—Racine, *Athalie*—Molière, *Misanthrope*, *Femmes Savantes*—La Bruyère, *Caractères*—Saint-Simon, *Mémoires* (Extracts Hachette)—Victor Hugo, *Hernani*, *Extraits*, *Poésies* (Delagrave)—Taine, *Littérature Anglaise* (5<sup>e</sup> vol.).

*Books recommended:*—Saintsbury, *History of French Literature*—Lanson, *Littérature Française*—Rambaud, *Civilisation Française*—Mignet, *Révolution Française*.

Passages from French Authors not prescribed. French prose composition. A general knowledge of the development of the French language. A general knowledge of French history, and of the history of French Literature, with a more minute knowledge of the period 1789-1889. Oral examination: reading aloud and French conversation. Subject: Victor Hugo, *Hernani*.

*Every Candidate is required to satisfy the Examiners in translating English into French prose.*

*5. German for October 1900.*

Hartmann von Aue, ed. J. G. Robertson—Brant, *Luther, Sachs, Fischart*, ed. Pariser (Göschel)—*Deutsche Heldensage*, Jiriczek (Göschel)—*Das deutsche Volkslied*, ed. Matthias (Velhagen)—Schiller, *Tell*, ed. Breul (Pitt Press)—Schiller, *Gedichte*, ed. Mayr (Gräser)—Goethe, *Hermann und Dorothea*, ed. Wagner (Pitt Press)—*Briefwechsel Schillers und Goethes*, ed. J. G. Robertson—Hauff, *Lichtenstein*, Seidel, *Leberecht Hühnchen*—P.K. Rosegger, *Mein Weltleben*. Elster—*Zwischen den Schlachten*, ed. Hirsch (Macmillan)—R. Kleinpaul, *Das Fremdwort im Deutschen* (Göschel).

Passages from German Authors not prescribed. German prose composition. A general knowledge of the development of the language. A general knowledge of German History, and of the History of German Literature, with a more minute knowledge of the Authors prescribed and of the period 1740-1830.

*Every Candidate is required to satisfy the Examiners in translating from and into German.*

*German for April and October 1901.*

*Die deutsche Heldensage*, Jiriczek (Göschel)—*Walther von der Vogelweide und Auswahl aus Minnesang und Spruchdichtung*, ed. Güntter (Göschel)—Hans Sachs, *Auswahl*, ed. Kinzel (Halle, Waisenhaus)—*Das deutsche Volkslied*, ed. Matthias (Velhagen)—Lessing, *Minna von Barnhelm*, ed. Buchheim—Schiller, *Maria Stuart*, ed. Breul—Schiller, *Balladen*, ed. Johnson (Heath)—Goethe, *Egmont*—Grillparzer, *Sappho*, ed. Rippmann (Macmillan)—Riehl, *Kulturgeschichtliche*



*Novellen*, ed. Wolstenholme (Pitt Press)—Freitag, *Rittmeister von Altrosen*, ed. Hatfield (Heath).

Passages from German Authors not prescribed. German Prose Composition and Essay. A general knowledge of the history of the German language, of the political history of Germany, and of the history of German literature, with a more minute knowledge of the Authors prescribed, and of the "classical period" in particular. Oral Examination: reading aloud, pronunciation and conversation. Subject: Schiller, Balladen, Goethe, Egmont.

Books recommended for reference:—O. Weise, *Unsere Muttersprache*—D. Müller, *Leitfaden der deutschen Geschichte*—Günther, *Deutsche Kulturgeschichte* (Götschen)—G. Klee, *Grundzüge der deutschen Literaturgeschichte*—Roquette, *Geschichte der deutschen Dichtung*.

Every Candidate is required to satisfy the Examiners in translating from and into German.

#### 6. Sanskrit and Comparative Philology.

Hitopadeśa (Johnson's ed., 1847), book i.—Nalopākhyānam (Bühler's ed.), cantos 1-12—Sanskrit Grammar—Sanskrit prose composition.

A general knowledge of the history of Sanskrit Literature.

#### 7. Semitic Languages.

*Hebrew*.—1. Questions in Grammar. 2. Translation into Hebrew Prose. 3. 1 Samuel; Hosea; Jonah; Psalms, book ii.; short passage from a historical book to translate at sight. 4. *Hebrew History and Literature* during the period of the Monarchy.

*Syriac*.—1. Questions in Grammar. 2. Translation into Syriac Prose. 3. *Book of Acts* in the Peshitta Version; *Syriac Chronicle of Barhebraeus* (extracts ix. and x. of Roediger's *Chrestomathia Syriaca*); *Poems of Ephraem Syrus* (*ibid.*, extract xviii.); *Chronicle of Joshua the Stylite* (ed. Wright), chaps. vii.-xxxii; short passage of easy prose to translate at sight. 4. History of the Syriac Versions of the Scriptures in detail (Wright's *Short History of Syriac Literature*, pp. 1-107).

*Arabic*.—1. Questions in Grammar. 2. Translation into Arabic Prose. 3. Bruennow's *Chrestomathy of Arabic Prose Pieces*, pp. 1-22, 44-55; *The Kor'an*, Sûra iii.; *Kalilah wa-Dimnah* (Beyrout Edition, 1888), pp. 105-123; short passage of easy prose to translate at sight; short passage of unseen prose to translate into English. 4. *Arabian History*.—Sir W. Muir's. *The Caliphate: its Rise, Decline, and Fall*.—Chapters 1-45 and 64-67.

#### 8. Celtic.

*Modern Gaelic* (Scottish and Irish)—Ossian, Cath Loduinn an Carraig Thura; the Poems of Dugald Buchanan and William Ross, or Keating's Three Shafts of Death.

*Old Gaelic*.—*Serglige Conculaind* (Windisch's *Irische Texte*).

Passages in Old and Modern Gaelic (both Scottish and Irish) from Authors not prescribed.

Translation from English into Gaelic Prose (Scottish or Irish).

*History and Literature.*—The History of Old Gaelic Literature to the year 1000 A.D.

## II.—DEPARTMENT OF MENTAL PHILOSOPHY.

### 1. *Logic and Psychology.*

The elementary doctrines of Logic and Psychology ; and the History of Philosophy so far as treated in the Class Lectures.—Locke's *Essay*, Book ii., Chapters 1-12, and Chapter 23 ; Professor Fraser's "*Selections from Berkeley*" (fifth edition)—"Editor's Introduction," "Principles of Human Knowledge," "Divine Visual Language: a Dialogue"; Hume's *Enquiry concerning Human Understanding*.—Sections 1-7 inclusive.

### 2. *Moral Philosophy.*

The Professor's "Ethical Principles"; Butler's Three Sermons "On Human Nature"; Mill's "Utilitarianism"; Spencer's "Data of Ethics"; Sidgwick's "Outlines of the History of Ethics."

### 3. *Commercial and Political Economy.*

The subjects of examination are : The Lectures of the Professor ; Mill's *Principles of Political Economy*, Books i.-iii. ; Marshall's *Economics of Industry* (new edition) ; Adam Smith's *Wealth of Nations*, Book iv. ; Professor Nicholson's *Money and Monetary Problems* (5th edition),—*The Treatise on Money*.

### 4. *Theory, Art, and History of Education.*

*Theory and Art.*—Subjects of examination : Lectures of the Professor ; Locke's *Thoughts* (parts which deal with moral training) ; Locke on the Conduct of the Understanding ; *Language and Linguistic Method in the School*, by Professor Laurie (2nd edition) ; Comenius' *Great Didactic*, as in "*The Educational Life and Writings of Comenius*" by Professor Laurie.

The Theory or Science of Education comprises the Psychology and Ethics in Laurie's "*Institutes of Education*" (2nd edition).

*History.*—A knowledge of Bacon and Ratke, as in the introduction to Laurie's *Comenius* ; and a general knowledge of Rousseau and Pestalozzi, as in Compayrè's *Manual* and Quick's *Educational Biographies*.

### 5. *Philosophy of Law.*

(See under "*Public Law*".)

## III.—DEPARTMENT OF SCIENCE.

### 1. *Mathematics.*

Arithmetic.—Euclid, Books i., ii., iii., iv., vi., and xi., or their equivalent, with their application to Mensuration.—Algebra, Trigonometry, Conic Sections, Geometrical and Analytical.

*Candidates must show sufficient knowledge in each of these subjects.*

2. *Natural Philosophy.*

Elementary Dynamics, Astronomy and Experimental Physics.

*Candidates must show sufficient knowledge both of Dynamics and of Experimental Physics.*

3. *Practical Astronomy.*

The Class Lectures.—Use of the Sextant, Transit-Circle, Wire and Ring Micrometers.—Young's General Astronomy; Main's Practical and Spherical Astronomy, or corresponding portions of Brünnow's or Chauvenet's Astronomy. Sir John Herschel's Outlines of Astronomy, omitting Part IV.

4. *Chemistry.*

Chemical changes as distinguished from physical changes. Elements; compounds; mixtures. Laws of chemical combination by weight and by volume. The atomic theory. Atoms; molecules. Avogadro's Hypothesis. Molecular weights of gaseous and volatile substances. Atomic weights. Law of Dulong and Petit. Chemical Notation—Symbols; formulæ; equations. Simple chemical calculations.

The non-metallic elements and their chief compounds; especially the compounds of oxygen, of hydrogen, and of chlorine, with the other non-metals. The more important inorganic acids. The atmosphere. Combustion. Oxidation and reduction.

The following metallic elements and their chief compounds; especially those with oxygen, with chlorine, and with sulphur: Gold, platinum, silver, mercury, lead, antimony, tin, copper, bismuth, zinc, cadmium, iron, aluminium, chromium, manganese, barium, strontium, calcium, magnesium, potassium, sodium.

The following salts: the ammonium salts; the more important sulphates, sulphites, thiosulphates, nitrates, nitrites, carbonates, bromides, iodides, iodates, phosphates, borates, silicates.

The relations of bases, acids, and salts. Electrolysis. Quantivalence. The periodic law.

The metallurgy of silver, mercury, copper, lead, tin, zinc, iron (including cast iron and steel). Alloys, such as brass, bronze, solder, type-metal. Amalgams.

The manufacture of aluminium, magnesium, potassium, sodium, glass, porcelain, mortar, gunpowder, sulphuric acid, sodium carbonate and bicarbonate, caustic soda, bleaching powder and chlorates, wrought-iron, steel, white lead.

Classification of Carbon Compounds. Marsh Gas and its Homologues. Chloroform. Methyl and Ethyl Alcohols and Ethers. Substituted ammonias and ammonium salts. Formic and Acetic Acids, Aldehyde, Acetone, Chloral, Olefiant Gas, Acetylene, Oxalic Acid, Lactic Acid. Tartaric Acid, Citric Acid. Fats and Oils, Saponification, Glycerine. Cellulose, Sugars, Starch. Distillation of Wood and of Coal. Benzene,

Benzoic Acid, Phenol, Salicylic Acid, Oil of Bitter Almonds. Hydrocyanic Acid, Cyanides, Cyanates, Thiocyanates, Urea, Uric Acid.

Simple Qualitative Analysis. The examination in this is conducted practically. Candidates are required to examine unknown *single salts* for both metallic and salt radicals, as contained in the following lists:—

Silver, Mercurous, Mercuric, Cupric, Lead, Stannous, Cadmium, Bismuth, Antimony (*Tartar Emetic* may be given), Arsenious, Zinc, Manganous, Ferrous, Ferric, Chromic, Aluminium, Calcium, Barium, Strontium, Magnesium, Ammonium, Sodium, Potassium.

Carbonate, Sulphite, Thiosulphate, Sulphide, Hypochlorite (Bleaching solution), Nitrite, Chloride, Bromide, Iodide, Cyanide, Sulphate, Chromate, Orthophosphate, Arseniate, Arsenite, Borate, Oxalate, Nitrate, Chlorate, Acetate.

At the examination, Candidates are supplied with the following reagents, &c.:—Acetic Acid, dilute Hydrochloric Acid, dilute Nitric Acid, Sulphuric Acid, dilute Sulphuric Acid, Alcohol, Iodine, Ammonia, Ammonium Carbonate, Ammonium Chloride, Ammonium Oxalate, Ammonium Sulphide, Barium Nitrate, Bleaching Powder, Calcium Chloride, Calcium Hydrate, Calcium Sulphate, Cobaltous Nitrate, Cupric Sulphate, Ferric Chloride, Ferrous Sulphate, Lead Acetate, Magnesium Sulphate, Mercuric Chloride, Potassium Carbonate, Potassium Chromate, Potassium Ferricyanide, Potassium Ferrocyanide, Potassium Hydrate, Potassium Iodide, Silver Nitrate, Sodium Bitartrate, Sodium Phosphate, Sodium Sulphite, Stannous Chloride, Sulphuretted Hydrogen. *Solids*—Manganese Dioxide, Sodium Carbonate, Borax, Sulphur, Zinc, Copper.

Test-papers:—Blue Litmus, Red Litmus, Plain, Starch, Turmeric. Bunsen Burner, Test Tubes.

### 5. *Zoology.*

(a) The General Principles of Biology.

(b) The distinctive characters of the Invertebrate groups and the structure, habits, &c., of *Amœba*, *Paramœcium*, *Hydra*, *Lumbricus*, *Nereis*, *Hirudo*, *Anodon*, *Buccinum*, *Helix*, *Nephrops*, *Astacus*, and *Periplaneta*.

(c) The distinctive characters of the Vertebrate groups and the structure, habits, &c., of *Myxine*, *Raia*, *Rana*, *Columba*, and *Lepus*.

(d) A general knowledge of the orders of Vertebrata.

(e) The outlines of the development of *Amphioxus*, *Scyllium*, *Rana*, *Gallus*, and *Lepus*, and of the characteristic larval forms of *Echinodermata*, *Crustacea*, *Annelida*, and *Mollusca*.

(f) The Geographical Distribution of Animals.

### 6. *Botany.*

The characteristic features of the following groups and classes of the vegetable kingdom:—

Thallophyta [*Schizophyta*, *Algæ*, *Fungi*]; *Muscinæ* [*Hepaticæ*,

Musci]; Pteridophyta [Filicineæ, Equisetineæ, Lycopodineæ]; Phanerogamæ [Gymnospermæ, Angiospermæ (Monocotyledones, Dicotyledones)].

The fundamental facts and principles of Organography, Physiology, and Geographical Distribution.

The life-history of the following plants:—Bacterium, Nostoc, Spirogyra, Saccharomyces, Mucor, Vaucheria, Agaricus, Collema, Puccinia, Claviceps, Eurotium, Marchantia, Fucus, Polysiphonia, Funaria, Aspidium, Equisetum, Selaginella, Pinus, Cycas, Scilla, Capsella, Helianthus, Ulmus, Quercus.

The characters of plants belonging to the chief British natural orders of Phanerogamæ.

#### 7. *Geology including Mineralogy.*

1. *Dynamical Geology.*—The nature and operation of geological agents:—The Atmosphere, Rain, Terrestrial Waters, Ice, the Sea, Plants and Animals, Volcanoes, Movements of the Earth's Crust.

2. *Mineralogy.*—Characters of the chief rock-forming minerals.

3. *Petrology.*—Megascopic and Microscopic Characters, Composition, Origin and Distribution of the more important Rocks.

4. *Structural Geology.*—Structure of Rock-masses, Bedding, Joints, Cleavage, Foliation, Metamorphism, Faults, Unconformity.

5. *Stratigraphical Geology.*—History of the Geological Systems of the British Islands.

6. *Palæontological Geology.*—Characters, and distribution in time, of the more important Genera and Orders found fossil in Britain.

7. *Physiographical Geology.*—Origin of the present outlines of the Earth's surface.

### IV.—DEPARTMENT OF HISTORY AND LAW.

#### 1. *History.*

##### *Subject of Examination for 1900-1901.*

General British History, viz. :—(1) History of the British Isles from B.C. 55 to A.D. 1837, in outline; (2) The same from 1603 to 1689, in detail.

The Examiners will attach greater importance to a grasp of principles than to mere knowledge of details.

Books recommended:—(a) For the *General History*, Gardiner's "Student's History of England," or Ransome's "Advanced History of England," Green's "Short History of the English People," Bright's "History of England," Hume Brown's "History of Scotland," Morris' "History of Ireland." (b) For the *Special Period*, Gardiner, "Puritan Revolution" (Epoch Series); Hallam, "Constitutional History of England"; Harrison, "Oliver Cromwell"; Macaulay, "History of England"; Burton, "History of Scotland."

#### 2. *Archæology and Art (History of).*

The subjects for examination will be the Class lectures, the Professor's Manual "The Fine Arts," Conway's "Dawn of Art in the Ancient



## 136 *Graduation in Arts—Honours Subjects for 1901-1902.*

World," Tarbell's "History of Greek Art," Poynter's "Classic and Italian Painting." Candidates will be expected to show some knowledge of the original authorities for the different periods of Art History.

### 3. *Constitutional Law and History.*

Subjects of examination: Constitutional History and Law of England, as treated of in the Lectures, and in the works of Stubbs, Hallam, and May; and that of the U.S. of America, of France, of Germany, and of Switzerland, as treated of in the Lectures, and in the works of Bancroft, Bryce, Adams and Cunningham, Dareste, Demombynes, &c.

### 4. *Roman Law.*

Subjects of examination: (1) The history of the law from the foundation of Rome to the time of Justinian, and (2) a general knowledge of the principles and doctrines of the Law. Maine's "Ancient Law," and Muirhead's "Historical Introduction," are recommended for the historical part, and Justinian's Institutes, Bk. i. to Bk. iv., Tit. vi., must be professed for the doctrinal part.

### 5. *Public Law.*

#### *I. The Philosophy of Law.*

Green, Principles of Political Obligation; Ritchie, Natural Rights; Lorimer, Institutes of Law; Ahrens, *Cour de Droit Naturel*; Bluntschli, *The Theory of the State*. The Student's Austin; Holland, *Jurisprudence*; Pollock, *First Book of Jurisprudence*; Sir H. Maine's works.

#### *II. Public International Law.*

Wheaton's *History of the Law of Nations*, Nys's *Les Origines du Droit International*, Hall's *International Law*.

## EXAMINATIONS FOR GRADUATION IN ARTS WITH HONOURS.

*(Examinations for Honours are held in April only.)*

(See Time-Table of Examinations, pp. 127, 128.)

### I.—CLASSICS.

*N.B.*—It should be understood that a general acquaintance with the Greek and Latin writers of the classical age will be expected from all candidates; and unseen passages from other than the prescribed authors will form an important part of the examination.

The subjects of Examination for the Degree of Master of Arts with Honours in 1901 and 1902 are as follows:—

#### 1. *Latin for 1901.*

Horace — Plautus, *Rudens*, *Mostellaria* — Lucretius, i. — Lucan, *Pharsalia*, vii. — Cicero, *Consular Speeches* — Sallust, *Catiline* — Tacitus, *Annals*, xii.-xiv. and the *Dialogue De Oratoribus*.



## *Graduation in Arts—Honours Subjects for 1901-1902.* 137

Latin prose composition. Translation from Authors not prescribed. Candidates may also offer Verse Composition.

*Roman History.*—A general knowledge of Roman History to 100 A.D., and a more special knowledge of the period 70 B.C. to the Fall of Nero.

*Roman Literature.*—A general knowledge of the course of Roman Literature, and a more minute knowledge of the Lives and Writings of the Authors prescribed.

### *Latin for 1902.*

Virgil—Plautus, *Trinummus*, *Stichus*—Lucretius, v.—Horace, *Epp.* ii., and *Ars Poetica*—Cicero's *Letters*, Watson's *Selection*, parts i. and ii.—Tacitus, *Histories*.

Latin prose composition. Translation from Authors not prescribed. Candidates may also offer Verse Composition.

*Roman History.*—A general knowledge of Roman History to the death of Trajan, and a more minute knowledge of the periods 70-44 B.C., and 54-79 A.D.

*Roman Literature.*—A general knowledge of the course of Roman Literature, and a more minute knowledge of the Lives and Writings of the Authors prescribed.

### *2. Greek for 1901.*

Homer, *Odyssey*, i.-xii.—Bacchylides, *Odes*, v., vi., ix., xi., xvii., xviii.—Theocritus—Thucydides, vi., vii.—Aristotle, *Nicom. Ethics*, i.-iv. (inclusive) and viii.-x. (inclusive).

Greek Prose Composition—Translation from Authors not prescribed. Candidates may offer Verse Composition.

*Greek History.*—A general knowledge of Greek History to the death of Alexander, and a more minute knowledge of the development of the Athenian constitution (with special reference to Aristotle's *Constitution of Athens*).

*Greek Literature.*—A general knowledge of Greek Literature, and a more minute knowledge of the Authors prescribed.

*Greek Grammar.*—As a special subject, Monro's *Homeric Grammar* (the part relating to Homeric Syntax).

### *Greek for 1902.*

Homer, *Odyssey*, xiii.-xxiv.—Bacchylides, *Odes*, v., vi., ix., xi., xvii., xviii.—Aristophanes, *Vespae*—Thucydides, vii.—Demosthenes, *De Cor.*—Aristotle, *Poetics*.

Greek prose composition—Translation from Authors not prescribed. Candidates may offer Verse Composition.

*Greek History.*—A general knowledge of Greek History to the death of Alexander, and a more minute knowledge of the development of the Athenian constitution (with special reference to Aristotle's *Constitution of Athens*).

## 138 *Graduation in Arts—Honours Subjects for 1901-1902.*

*Greek Literature.*—A general knowledge of Greek Literature, and a more minute knowledge of the Authors prescribed.

*Greek Grammar.*—As a special subject, Monro's *Homeric Grammar* (the part relating to Homeric Syntax).

### *Optional Subjects.*

#### *1. Comparative Philology for 1901 and 1902.*

Candidates who take Comparative Philology as their optional subject for Graduation with Honours in Classics, will be examined in the following branches of Linguistic Science:—(a) Science of Language, including the history and general results of Linguistic research. (b) Principles of Indo-European Comparative Philology, with special reference to the Greek and Latin Languages. (c) Etymology of Greek and Latin.

Books recommended for private study:—(a) M. Müller, *Lectures on the Science of Language*. W. D. Whitney, *Language and the Study of Language*. B. Delbrück, *Introduction to the Study of Language*. (b) P. Giles, *Short Manual of Comparative Philology*.

Also recommended for reference:—King & Cookson, *Principles of Sound and Inflection*. Brugmann & Stolz, *Greek and Latin Grammar* (Iwan Müller's *Handbuch der Klassischen Alterthumswissenschaft*, vol. ii.). Blass, *Pronunciation of Ancient Greek* (Cambridge University Press). (c) Curtius, *Principles of Greek Etymology*, Book ii.

#### *Classical Archaeology for 1901.*

1. The general history of the Arts of Form in Greece. To be studied in Overbeck's "*Schriftquellen*," and Murray's "*Handbook of Greek Archæology*."

2. The history of Greek Sculpture. To be studied in E. Gardner's "*Handbook of Greek Sculpture*" and Brunn-Bruckmann's *Photographs*.

#### *Classical Archaeology for 1902.*

1. The general history of the Arts of Form in Greece. To be studied in Overbeck's "*Schriftquellen*" and Murray's "*Handbook of Greek Archæology*."

2. The history of Greek Sculpture. To be studied in E. Gardner's "*Handbook of Greek Sculpture*" and Brunn-Bruckmann's *Photographs*.

#### *Ancient Philosophy for 1901.*

The Pre-Socratic Philosophy, with original authorities as quoted in Ritter and Preller, *Historia Philosophiæ Græcæ*; The Sophists and Socrates; Plato, *Theætetus*, together with the outlines of the Platonic Philosophy.

Books recommended:—Zeller, *Pre-Socratic Philosophy*, vol. i. and ii. (Translation by Alleyne). Burnet, *Early Greek Philosophy*.

#### *Or, as an alternative:*

Plato, *Philebus*, together with the outlines of the Platonic Philosophy;

the Psychology and Logic of Aristotle, with special reference to Aristotle, *De Anima*, and Trendelenburg's *Elementa Logices Aristoteleae*.

*Ancient Philosophy for 1902.*

The Pre-Socratic Philosophy, with original authorities as quoted in Ritter and Preller, *Historia Philosophiæ Græcæ*: The Sophists and Socrates; Plato, *Theætetus*, together with the outlines of the Platonic Philosophy.

Books recommended:—Zeller, *Pre-Socratic Philosophy*, vols. i. and ii. (Translation by Alleyne). Burnet, *Early Greek Philosophy*.

*Or, as an alternative:*

The Philosophy of Nature, Psychology and Ethics of Aristotle, with special reference to Aristotle, *Physics*, bks. i., ii.: *De Anima*, bk. i. ch. 1.; bk. ii. ch. 1-6, 12; bk. iii. ch. 1-5: *Nic. Ethics*, bks. i.-iv. and x.

II.—MENTAL PHILOSOPHY.<sup>1</sup>

1. *Logic and Metaphysics for 1901 and 1902.*

A competent knowledge of the History of Philosophy and of the more advanced doctrines of Logic and Psychology, and a special knowledge of the following books:—

Plato, *Theætetus*—Aristotle, *De Anima*—Spinoza, *Ethics*—Hume, *Treatise on Human Nature*, Book i. (Of the Understanding)—Kant, *Critique of Pure Reason*—Hegel's *Logic*, in Professor Wallace's translation, chapters i.-vi.—Lotze's *Metaphysics*, Book i. (Clarendon Press).

2. *Moral Philosophy for 1901 and 1902.*

A general knowledge of the history of ethical theory, and a more special knowledge of the following books:—

Plato, *Republic*—Aristotle, *Ethics*—Kant, *Theory of Ethics* (Abbott's trans.)—Hegel, *Philosophy of Right* (Dyde's trans.)—Sidgwick, *Methods of Ethics*—Green, *Prolegomena to Ethics*—Spencer, *Principles of Ethics*.

3. (In 1902 and subsequent years.) *One of the following special subjects—*

(a) Greek Philosophy. (b) Advanced Psychology. (c) Political Philosophy.

(a) Greek Philosophy for 1902 will include (1) a more detailed knowledge of the Greek books set in the general list; (2) Plato, *Philebus*; (3) Aristotle, *Posterior Analytics*.

(b) Advanced Psychology for 1902 (1) a more detailed knowledge of

<sup>1</sup> The special examination in Greek (see p. 111) will be held at the same time as the first paper of the M.A. Pass Examination in Greek, in October 1900 and April 1901 and will consist of (1) Passages for translation from Aristotle, *Nic. Ethics*, bk. i.; Plato, *Republic*, bk. vi. or vii.; (2) Easy passages for unseen translation from Xenophon, Plato, or Aristotle. Candidates must enter their names, and state which book of Plato's *Republic* they offer, one month before the date of the examination.

Ward's *Psychology*, and James' *Principles of Psychology*; (2) Stout's *Analytic Psychology*; (3) Külpe's *Outlines of Psychology*.

(c) Political Philosophy for 1902. Aristotle, *Politics*—Green, *Principles of Political Obligation*—Sidgwick, *Elements of Politics*.

### III.—MATHEMATICS AND NATURAL PHILOSOPHY.

Pure Geometry, Algebra, Theory of Equations, including Determinants, Trigonometry (Plane and Spherical), Analytical Geometry, Differential and Integral Calculus, Calculus of Finite Differences. (The Candidate may, if he please, profess the Elements of Quaternion Analysis.)

Experimental Physics; Analytical Dynamics and Thermodynamics; *imperative*.

In addition, two or more branches of Elementary Mathematical Physics (such as Geometrical or Physical Optics, Statical or Voltaic Electricity, Capillarity, &c.). These may be selected by the Candidate.

Students who select special subjects should consult the Examiners regarding the scope of their examination, and the text-books which they should use.

### IV.—ENGLISH (LANGUAGE, LITERATURE, AND BRITISH HISTORY).

1. Candidates for Honours in English must attend at least four complete courses of Lectures within their Honours group, viz.: (a) Not less than two Courses in English Literature, of which one at least must be an Honours Course; and (b) not less than two Courses—one of which at least must be an Honours Course—in the Subsidiary subjects, English Language and British History; or in either of them.

2. Every such candidate must be examined in all the three subjects mentioned in the Regulations, Section XI. (1) f.

#### *Subjects for 1901.*

##### 1. *Literature.*

1. Rhetoric and the Principles of Literature. Knowledge of the following required:—Aristotle's *Rhetoric* and *Poetics*; Quintilian's *Institutes*, especially Books ix. and x.; Longinus, *On the Sublime*; Dante, *De Vulgari Eloquentia*; Jonson, *Discoveries*; Dryden, *Essay of Dramatic Poesy*; Johnson, *Lives of Cowley, Milton, Dryden, Pope, and Gray*; De Quincey's *Essay on Rhetoric*; Masson's *Essay on Milton's English and Versification* (in Edition of Milton); Guest's *English Rhythms*; Wordsworth's *Prose Prefaces*; Coleridge, *Biographia Literaria*, cap. xiv. to end; M. Arnold, *Essays in Criticism* (Preface and two first Essays, with Prefatory Essay to Ward's *Poets*).

2. History of English Literature. (1) *General*.—Books recommended:—Ten Brink's *Early English Literature* (transl. by Kennedy); Stopford Brooke's *Early English Literature*; Ward's *English Dramatic Literature*; Saintsbury's *Short History of English Literature, Elizabethan Literature*, and *Nineteenth Century Literature*; Gosse's

*Eighteenth Century Literature*; Ward's *English Poets*; Craik's *English Prose*; Irving's *History of Scottish Poetry*. (2) *Special*.—Literature of the Sixteenth Century. Candidates are expected to show a thorough knowledge of the following:—Ascham, *Toxophilus* and *Schoolmaster*; Sackville, *Poems* and *Gorboduc*; Gascoigne, *Steel Glass* and *Notes of Instruction*; Marlowe, *Tamburlaine*; Lyly, *Euphues*; Spenser, *Shepherd's Kalendar* *Faerie Queene*, i. and ii., and *Four Hymns*; Sidney, *Astrophel Sonnets*, and *Apology for Poetry*; Shakespeare, *Poems*, *Antony* and *Cleopatra*, *Hamlet*, *As you Like It*; Bacon, *Essays*; Alexander Scott, *Poems*; Montgomerie, *The Cherry* and *The Slac*.

3. The subjects of any other Honours Course in English Literature the Candidate may have attended.

Candidates will be required to write a Critical Essay on some subject arising out of Nos. 1, 2, or 3.

## 2. Language.

1. The History of Old and Middle English. For Books recommended for reference see Course on the History of Old and Middle English.

2. *Special Readings*.—*Beowulf* (ll. 1251-1887); *The Wanderer*; Wulfstan's Address to the English (Sweet's *A.-S. Reader*); Layamon, *Brut* (MS. Cott. Calig.) ll. 13785-14387; *The Proverbs of Alfred* (in Morris's *Old English Miscellany*, E.E.T.S.); Chaucer, *Squieres Tale*; Henryson, *Testament of Cressid*; Lyndsay, *The Monarchie* (ll. 1-385); also Sweet, *A.-S. Reader*, Part II. (Archaic and Dialectal), and Morris and Skeat, *Specimens*, I. and II., in illustration of O.E. and M.E. Dialects.

3. Unseen passages for translation into Modern English.

## 3. British History.

One of those branches of British History which form the subjects of the Courses given by the Professors of History. Candidates to intimate the subjects they select at the time of entering their names for Examination.

## Subjects for 1902.

### 1. Literature.

1. Rhetoric and the Principles of Literature. Knowledge of the following required:—Aristotle's *Rhetoric* and *Poetics*; Quintilian's *Institutes*, especially Books ix. and x.; Longinus, *On the Sublime*; Dante, *De Vulgari Eloquentia*; Jonson, *Discoveries*; Dryden, *Essay of Dramatic Poesy*; Johnson, *Lives of Cowley, Milton, Dryden, Pope, and Gray*; De Quincey's *Essay on Rhetoric*; Masson's *Essay on Milton's English and Versification* (in Edition of Milton); Guest's *English Rhythms*; Wordsworth's *Prose Prefaces*; Coleridge, *Biographia Literaria*, cap. xiv. to end; M. Arnold, *Essays in Criticism* (Preface and two first Essays, with Prefatory Essay to Ward's *Poets*).

2. History of English Literature. (1) *General*.—Books recommended:—Ten Brink's *Early English Literature* (transl. by Kennedy);



Stopford Brooke's *Early English Literature*; Ward's *English Dramatic Literature*; Saintsbury's *Short History of English Literature, Elizabethan Literature and Nineteenth Century Literature*; Gosse's *Eighteenth Century Literature*; Ward's *English Poets*; Craik's *English Prose*; Irving's *History of Scottish Poetry*. (2) *Special*.—Literature of the Seventeenth Century. Candidates are expected to show a thorough knowledge of the following:—B. Jonson, *Alchemist, Sad Shepherd, Underwoods*; Beaumont and Fletcher, *Philaster, Rule a Wife and Have a Wife*; Massinger, *New Way to Pay Old Debts*; Poems of Herrick, Marvell, Drummond; Browne, *Urn Burial and Garden of Cyrus*; Milton, *Minor Poems, Paradise Lost, Book I., Areopagitica and Tractate of Education*; Dryden, *Satires, Fables, Conquest of Granada, All for Love*; Butler's *Hudibras, Part I.*; *Character Writers of the Seventeenth Century* (H. Morley).

3. The subjects of any other Honours Course in English Literature the Candidate may have attended.

Candidates will be required to write a Critical Essay on some subject arising out of Nos. 1, 2, or 3.

### 2. *Language for 1902.*

1. The History of Old and Middle English. For Books recommended for reference see CALENDAR, under Course on the History of Old and Middle English.

2. *Special Readings*.—*Beowulf* (ll. 1-1250); *The Seafarer*; Selections from Ælfric's *Homilies* in Sweet's *A.-S. Reader*; *The Owl and the Nightingale*; Chaucer, *House of Fame*; Rauf Coilyear; Gavin Douglas, *Prologues to the Æneid*; also Sweet, *A.-S. Reader, Part II.* (Archaic and Dialectal), and Morris and Skeat, *Specimens, I. and II.*, in illustration of O.E. and M.E. Dialects.

3. Unseen passages for translation into Modern English.

### 3. *British History.*

Either (a) British History from B.C. 55 to A.D. 1837 in outline, and (b) British History, A.D. 1603-1714 in detail; or, in the option of the Candidate (a) State and Church in England 1360-1563, and (b) Original sources relating to that period. The Examination will have special reference to Dr Lechler's *Wycliffe*; *Wycliffe's de officio regis*; the *Vision of Piers Plowman*; Prologue to Chaucer's *Canterbury Tales*; Fortescue's *Governance of England*; and Seebohm's *Oxford Reformers*.

## V.—MODERN LANGUAGES AND LITERATURE.

### *French, 1901.*

Clédat, *Morceaux choisis du Moyen-Âge*; Faguet, *Études sur le 19<sup>me</sup> siècle*—Faguet, *Politiques et Moralistes au 19<sup>me</sup> siècle*—Lanson, *Histoire de la Littérature française*—Taine, *Extraits*—Michelet, *Précis de la Révolution française*—V. Hugo, *Les Contemplations*—Saint-Victor, *Hommes et Dieux*—Pascal, *Pensées*—Rimbaud, *Civilisation française*.



French Composition and Translation of unseen passages.

*French History*.—A general knowledge of French History, and a more minute knowledge of the period from 1789 to 1870.

*French Literature*.—A general knowledge of the history of French Literature, and a special knowledge of the period from 1802 to 1889.

*Romance Philology*.—The general principles of Romance Philology (Brachet, *Grammaire historique*; Brunot, *Grammaire historique*, 3rd ed.).

#### French, 1902.

Chanson de Roland—Darmesteter, 16<sup>me</sup> Siècle—Montaigne, *Essais*—Pascal, *Pensées*—Saint-Simon, *Mémoires (Extraits)*—Rousseau, *Confessions, Contrat Social*—V. Hugo, *Année Terrible, Légende des Siècles, Extraits en Prose* (Delagrave), *Chefs-d'œuvre dramatiques*—Faguet, *Politiques et Moralistes*—Taine, *Notes sur l'Angleterre*—Saint-Victor, *Hommes et Dieux*.

*French Composition* and translation of unseen passages.

Oral examination: reading aloud, and French conversation. Subject: Victor Hugo, *Légende des Siècles*.

*French History*.—A general knowledge of French History, and a more minute knowledge of the period from 1789 to 1870. Books recommended:—Michelet, *Révolution française*—Taine, *Origines de la France Contemporaine*—Thiers, *Consulat et Empire*.

*French Literature*.—A general knowledge of the history of French Literature, and a special knowledge of the period from 1802 to 1889.

*Romance Philology*.—The general principles of Romance Philology. Books recommended:—Brachet, *Grammaire historique*; Bartsch, *La Littérature française jusqu'au 14<sup>me</sup> siècle*; Brunot, *Grammaire historique*, 3rd ed.; Darmesteter, *Grammaire historique*.

#### German for 1901.

*Gotische Sprachdenkmäler*, ed. Jantzen (Göschen)—*Althochdeutsche Litteratur*, ed. Schaufler (Göschen)—*Deutsche Mythologie*, Kauffmann (Göschen)—*Deutsche Kulturgeschichte*, Günther (Göschen)—*Walter von der Vogelweide*, ed. Paul (Altdeutsche Textbibl.)—*Brant und Fischart*, ed. Voigt (Velhagen u. Klasing)—Herder, *Von deutscher Art und Kunst*, ed. Lambel (Deutsche Litt. Denkmäler)—Winckelmann, *Gedanken über die Nachahmung* (Deutsche Litt. Denkm.)—Lessing, *Laokoon*, ed. Jauker (Gräser)—Schiller, *Braut von Messina* (Gräser)—Schiller, *Naïve und sentimentalische Dichtung* (Gräser)—Goethe, *Elegien* (Cotta, Bd. I.)—Lenau, *Gedichte* (Gräser)—Heine, *Buch der Lieder* (Hoffmann u. Campe)—Scheffel, *Trompeter*—Neubauer, *Freiherr von Stein* (Führende Geister)—Stifter, *Bunte Steine*—F. Reuter, *Extracts from Lüsschen und Rimels*—P. K. Rosegger, *Stoansteirisch*.

Prose Composition. Translation from authors not prescribed.

*German History*.—A general knowledge of German History, and a more intimate knowledge of the period from 1700 to 1820.

*German Literature*.—A general knowledge of German Literature,

and a special knowledge of the authors prescribed and of the period from 1740 to 1832 (Scherer, *History of German Literature*; Kluge, *National-Litteratur*).

*Teutonic Philology*.—The general principles of Teutonic Philology, and a more intimate knowledge of Modern German Etymology.

#### *German for 1902.*

*Gotische Sprachdenkmäler*, ed. Jantzen (Göschel)—*Althochdeutsche Litteratur*, ed. Schaffner (Göschel)—*Der Nibelunge Not*, Avent. xvi.-xxx., ed. Bartsch—R. Meyer, *Einführung in das ältere Neuhochdeutsche* (Reisland)—Luther, *Vermischte Schriften*, ed. Neubauer (Halle, Waisenhaus)—*Die Litteratur des XVII. Jahrhunderts*, ed. Böttcher—Klopstock, *Oden*, Auswahl, ed. Lichtenheld (Gräser)—Winckelmann, *Musterstücke*, ed. Kühne (Weidmann)—K. Fischer, *Lessing's Nathan der Weise*, Herder, *Prosa* (Velhagen Bd. ii.)—Goethe, *Tasso*, ed. Thomas (Heath)—Goethe, *Dichtung und Wahrheit*, Buch vii.-xiii.—Schiller, *Gedichte der III. Periode*—Schiller, *Briefe über die aesthetische Erziehung*—Heine, *Die Harzreise*—Stifter, *Die Narrenburg*—Geibel, *Hoeroldsrufe*—Storm, *Hans Kirch und Heinz Kirch*—Reuter, *Läuschen und Rimels* (Extracts).

Translation from authors not prescribed. German Prose composition. German Essay.

Oral examination in reading aloud and in German conversation. Subjects:—Goethe's *Dichtung und Wahrheit* and *Tasso*.

Recommended:—Viator, *Die Aussprache des Schriftdeutschen*.

*German History*.—A general knowledge of the subject, and a more minute knowledge of the period from 1700 to 1900.

Recommended:—D. Müller, *Leitfaden der deutschen Geschichte*—Kaemmel, *Der Werdegang des deutschen Volkes*—Günther, *Deutsche Kulturgeschichte*.

*German Literature*.—A general knowledge of the subject, and a more special knowledge of the authors prescribed, and of the period from 1740 to 1900.

Recommended:—M. Koch, *Deutsche Literaturgeschichte* (Göschel)—W. Scherer, *Deutsche Literaturgeschichte*.

*German Philology*.—Elements of Historical Grammar as contained Brandt's *German Grammar* (Boston, Allyn & Bacon).

Recommended:—O. Weise, *Unsere Muttersprache*—Behagel, *Die deutsche Sprache*.

#### VI.—HISTORY.

Candidates for Honours in History must attend two Classes (one at least of which must be an Honours Class) in each of their Honours Subjects.

The Honours subjects at present recognised are (1) Modern History, (2) Constitutional History, and (3) History of Art.

I. Under the head of *Modern History* four papers will be set.

*Subjects for 1901.*

(1) General survey of British History, from B.C. 55 to A.D. 1885, with special attention to the period A.D. 1603-1689. Some knowledge of books on the special period will be required.

(2) *Either* (a) "The History of Europe from 1715 to 1815, with a special study of the *Mémoires de Frédéric II.* and the *Diaries and Correspondence of the first Earl of Malmesbury*;" or, (b) "The History of Europe from 1610 to 1715," with a special study of the following books:—Fontenay-Mareuil, *Mémoires*; Cardinal de Retz, *Mémoires*; Torcy, *Mémoires*. For other Authorities, see Outlines of Lectures.

*Subjects for 1902.*

(1) "General Survey of British History from B.C. 55 to A.D. 1837, with special attention to the period A.D. 1603 to 1689." Candidates will be required to show a knowledge of Gardiner's *Documents of the Puritan Revolution*.

(2) *Either* (a) "The History of Europe from 1610 to 1715," with a special knowledge of the following books:—Fontenay-Mareuil, *Mémoires*; Cardinal de Retz, *Mémoires*; Torcy, *Mémoires*; or, (b) "The History of France from 1715-1815, with special attention to period of the French Revolution from 1789-95."

II. In *Constitutional History*, four papers:—

*Subjects for 1901 and 1902.*

(1) and (2) Constitutional History of England (a) from 1066 to 1450; (b) from 1688 to 1782.

(3) Origins and Principles of the chief European Constitutions.

(4) State and Church in England, from Wycliffe to Luther.

The Candidate must show some familiarity with the original sources (in Latin, French, Old English, &c.; cf. Syllabus of Course).

III. In *History of Art* four papers:—

*Subjects for 1901 and 1902.*

(1) The general subject (two papers) embracing:—The Class Lectures; the Professor's Manual "The Fine Arts"; Conway's "Dawn of Art in the Ancient World"; Maspero's "Dawn of Civilization" and "The Struggle of the Nations"; Woltmann's "History of Painting," Vol. I.; Vasari's "Lives" of Giotto, Angelico, Donatello, Brunelleschi, Michelangelo (in Blashfield and Hopkins' edition of

the "Lives," or in Bohn's translation, with the addition of Richter's Notes in Vol. vi. of Bohn's edition).

(2) Classical Archæology (two papers). The examination will be in the same books, &c., as those prescribed in this subject in 1901 and 1902 for Honours in Classics (see p. 138), and the papers will be set at the same time.

(3) In 1902 British History as illustrated in monuments, &c. (two papers). *Text-books*—Bede, *Opera Historica*, ed. Plummer (selected passages); J. Romilly Allen, *Monumental History of the Early British Church*.

## VII.—ECONOMIC SCIENCE.

(i.e. POLITICAL ECONOMY with either (a) MORAL PHILOSOPHY or (b) HISTORY as supplementary Honours Subject.

### *Subjects for 1901 and 1902.*

1. POLITICAL ECONOMY.—An advanced knowledge of Economic Theory. Special knowledge of the Economic Functions of Government and Public Finance. General Economic History of England, and special study of set subjects.

*Books recommended*:—General Theory.—Marshall's *Principles of Economics*, Vol. I.; Keynes' *Scope and Method of Political Economy*; Nicholson's *Principles of Political Economy*. For Reference on Abstract Methods—*Pantaleoni's Pure Economics*.

Government and Finance.—Adam Smith's *Wealth of Nations*, Book V.; J. S. Mill's *Political Economy*, Book V.; Sidgwick's *Political Economy*, Book III.; Bastable's *Public Finance*. For Reference—Sidgwick's *Elements of Politics*, chaps. i.-xii.

Economic History.—Cunningham's *Growth of English Industry and Commerce*; Seeböhm's *English Village Community*, chaps. i.-v. For Reference—Roger's *Six Centuries of English Work and Wages*; Ashley's *Economic History*; Gomme's *Village Community*; Vinogradoff's *Villeinage in England*.

Three Papers to be set.

2. MORAL PHILOSOPHY.—The papers in Moral Philosophy will be the same as those set for Honours in Philosophy.

3. HISTORY.—The papers in History, either General or Constitutional (in the Candidate's option) will be the same as for Honours in History.

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## REGULATIONS FOR SCHOOLMASTER'S DIPLOMA.

1. Candidates for the Schoolmaster's Diploma must be graduates in Arts of a Scottish, English, or Irish University, or of some other University approved of by the Senatus and the University Court.

2. Each Candidate must have matriculated in the University for the year in which he presents himself for the Diploma.

3. Each Candidate must have attended the Class of the Theory, Art, and History of Education in the University.

4. Each Candidate must pass an Examination in the Theory, Art, and History of Education, to be conducted by the Professor of that subject, and an Examiner appointed by the University Court.

5. The subjects of Examination are announced annually in the *University Calendar*.

6. Each Candidate must give evidence either—

(a) That he has attended a Course of Practical Instruction as a Queen's Scholar in a Training College for Teachers; *or*,

(b) That he has gone through a complete course of Practical training in a Training College for Teachers—the Course to extend over not less than five months (eight hours weekly), and to include Demonstration and Criticism Lessons.

N.B.—*Those desirous of obtaining the Secondary School Diploma will further be required to spend a month in a Secondary School.*<sup>1</sup>

*or,*

(c) That she has completed a Practical Course in St George's Training College, Edinburgh, and passed the practical examination of the University of Cambridge Syndicate.

7. Each Candidate must further satisfy the University of his practical aptitude as a Teacher by teaching a class in some special Subject or Subjects in which he has received instruction in the University, or in any Institution recognised by the University as qualifying for Degrees.

8. Each successful Candidate will receive a Diploma signed by the Vice-Chancellor of the University, or, in his absence, by the Principal or the Senior Professor. This Diploma is of two grades: (a) *Secondary School Diploma*, for Masters of Arts with Honours in any Department, testifying to their fitness for Secondary Schoolmasterships, and will state the Special Subjects in which the holder of the Diploma is qualified. When a Candidate requires special mention made of his competency to teach French or German, he is required to pass a practical examination in French or German pronunciation and conversation; (b) *General Diploma*, for those who have taken the ordinary Degree of M.A. This is recognised by the Scottish and English Education Departments as qualifying (in the case of Graduates of the University of Edinburgh) for employment in Public Schools.

9. The Fee for the Diploma is £2, 2s.

The Examinations begin on Monday, 29th October 1900, and on Friday, 29th March 1901, at 9 A.M., and Candidates are required to

<sup>1</sup> The Heriot Governors, the Merchant Company, and the School Board of Edinburgh, have thrown open their Secondary Schools to students preparing for the Diploma.

enter their names and pay the Fees at the *Matriculation Office* on or before 4th October and 5th March.

The subjects of Examination are the same as for Graduation in Education (which see, page 132), but the Standard of Pass is much higher, *with the addition* of Milton's "Tractate"; Quintilian's "Institutions," Books I. and II.; and "The History of Education, Hellenic and Roman," as in the "Historical Survey of Pre-Christian Education," by the Professor; and the General Outlines of History, as in Quick's "Biographies," from 1750 A.D.

*A short Thesis will be prescribed to be written in the Examination Room on an Educational subject.*

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#### EXAMINATION FOR CANDIDATES FOR THE ARMY.

1. Graduates in Arts or in Science of this University, or anyone who has passed the Examinations for either of these degrees are eligible for Commissions in the Army. The limit of age is 17 to 23.

2. Students of this University who have passed "the Examination of Candidates for the Army," are also eligible for Commissions. They are required to attend one class in each of the following three Departments—viz. (a) Latin or Greek; (b) Logic or Moral Philosophy, or Rhetoric and English Literature; (c) Mathematics or Natural Philosophy,—and to pass the Examination on the M.A. standard, in the three subjects in which they have attended classes. The limit of age in this case is 17 to 22.

Candidates for Certificates must enter their names in and pay the Fees at the *Matriculation Office* at the same time as the Candidates for the M.A. Examinations. The Fee for the Examination is two guineas.

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## Competitive Examinations for Bursaries in Arts.

## HONOURS LIST.

## ORDERS OF MERIT.

October 1899.

## I.—STUDENTS ENTERING FIRST SESSION.

## A. GENERAL BURSARY LIST.

(*Subjects of Examination*—English, Latin, Greek, Mathematics, French, German, Italian, and Dynamics (with additional papers in English, Latin, Greek, Mathematics, French, and German). Candidates select not more than five subjects. Those who select Latin, Greek, or Mathematics take the papers on these subjects on the Higher Standard.

- |  |   |
|--|---|
| 1. George Robertson, George Watson's College.          | 18. R. W. Rae, Dumfries Academy.                          |
| 2. J. H. MacLagan-Wedderburn, George Watson's College. | 19. F. J. Chalmers, Daniel Stewart's College.             |
| 3. J. L. Geddie, Daniel Stewart's Col.                 | 20. D. L. Cattanaach, George Watson's College.            |
| 4. C. L. Philip, George Watson's College.              | 21. { H. L. Mackenzie, Fettes College.                    |
| 5. James Black, Fettes College.                        | 21. { C. L. Riach, George Watson's College.               |
| 6. Stewart Waterston, George Watson's College.         | 22. W. M. Traill, George Watson's College.                |
| 7. A. J. D. Lothian, George Watson's College.          | 23. John MacLaren, George Watson's College.               |
| 8. D. H. Wares, George Watson's College.               | 24. { Marion T. Moffat, Ayr Academy.                      |
| 9. James Jackson, Ayr Academy.                         | 24. { J. F. Robertson, Daniel Stewart's College.          |
| 10. A. H. Scott, Ayr Academy.                          | 25. Daniel Johnstone, George Watson's College.            |
| 11. John Anderson, George Watson's College.            | 26. James M'Caig, Wallace Hall Academy.                   |
| 12. J. H. Aikman, Daniel Stewart's College.            | 27. { James Murray, George Watson's College.              |
| 13. William Henderson, George Watson's College.        | 27. { John Steele, George Watson's College.               |
| 14. J. P. Lowson, George Watson's College.             | 28. Robert Campbell, Hutton Hall Academy, Dumfries.       |
| 15. William Farquharson, Royal High School.            | 29. H. W. Jamieson, Royal High School.                    |
| 16. Robert Younger, Daniel Stewart's College.          | 30. { J. L. Pirie, Davie Street Public School, Edinburgh. |
| 17. { John Handyside, Royal High School.               | 30. { A. S. Robertson, Perth Academy.                     |
| 17. { R. B. Thomson, George Watson's College.          | 31. T. S. M'Intosh, Dollar Institution.                   |

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| 32. D. M. Joss, George Watson's College.         | 35. T. M. Finlay, Sandwick Public School.  |
| 33. Colin MacDonald, Dumfries Academy.           | 36. John Morrison, Tranent Public School.  |
| 34. John Paterson, Moray House Training College. | 37. John Douglas, George Watson's College. |

**B. JOHN WELSH CLASSICAL BURSARY.***(Subjects of Examination—English, Latin, and Greek.)*

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|--|---|
| 1. George Robertson, George Watson's College.    | 12. { D. L. Cattnach, George Watson's College.            |
| 2. D. H. Wares, George Watson's College.         | 13. { H. L. Mackenzie, Fettes College.                    |
| 3. { J. L. Geddie, Daniel Stewart's College.     | 14. { J. H. MacLagan-Wedderburn, George Watson's College. |
| 4. { Stewart Waterston, George Watson's College. | 15. { A. H. Scott, Ayr Academy.                           |
| 5. { James Jackson, Ayr Academy.                 | 16. { J. F. Robertson, Daniel Stewart's College.          |
| 6. { James Murray, George Watson's College.      | 17. { W. M. Traill, George Watson's College.              |
| 7. { J. H. Aikman, Daniel Stewart's College.     | 18. { John Steele, George Watson's College.               |
| 8. { James Black, Fettes College.                | 19. { John MacLaren, George Watson's College.             |
| 9. { R. W. Rae, Dumfries Academy.                | 20. { R. B. Thomson, George Watson's College.             |
| 10. { C. L. Philip, George Watson's College.     | 21. { James M'Caig, Wallace Hall Academy.                 |
| 11. { A. J. D. Lothian, George Watson's College. | 22. { William Farquharson, Royal High School.             |
| 12. { H. W. Jamieson, Royal High School.         | 23. { F. J. Chalmers, Daniel Stewart's College.           |
| 13. { J. P. Lowson, George Watson's College.     | 24. { Robert Younger, Daniel Stewart's College.           |

**C. JOHN WELSH MATHEMATICAL BURSARY.***(Subjects of Examination—Mathematics, especially pure Geometry.)*

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|--|--|
| 1. John Anderson, George Watson's College.               | 6. J. H. Aikman, Daniel Stewart's College.     |
| 2. James Black, Fettes College.                          | 7. A. H. Scott, Ayr Academy.                   |
| 3. J. H. MacLagan - Wedderburn, George Watson's College. | 8. J. L. Geddie, Daniel Stewart's College.     |
| 4. C. L. Riach, George Watson's College.                 | 9. F. J. Chalmers, Daniel Stewart's College.   |
| 5. C. L. Philip, George Watson's College.                | 10. George Robertson, George Watson's College. |

**D. GEORGE HERIOT BURSARIES FOR WOMEN (ARTS) AND BURSARIES OF EDINBURGH ASSOCIATION FOR THE UNIVERSITY EDUCATION OF WOMEN.***(Subjects as for General Bursary Competition.)*

- |   |   |
|---|---|
| 1. Madeline G. Edgar, Bonvil House, Cupar.  | 5. Margaret J. Ewan, Grove Academy, Broughty Ferry. |
| 2. Grace Fergie, Edinburgh Ladies' College. | 6. Mary S. Govan, High School, Stirling.            |
| 3. Lilian S. Ross, Arbroath High School.    | 7. { Minnie Moore, Edinburgh Ladies' College.       |
| 4. Marion T. Moffat, Ayr Academy.           | 8. { Elizabeth Reid, Edinburgh Ladies' College.     |

*E. GEORGE HERIOT BURSARIES FOR WOMEN (MEDICINE).*

(*Subjects of Examination*—The Preliminary Examination for Arts or Science.)

Eleanor A. Gorrie, George Watson's Ladies' College.

*F. RENTON BURSARY.*

(*Subjects of Examination*—English and Mathematics.)

R. B. Thomson.

A. K. R. Paton.

*G. MACKINNON BURSARY.*

(*Subjects of Examination*—As for Preferential Bursaries, with Gaelic in addition.)

D. C. Gordon.

A. D. Maclean.

Alexander Sutherland.

Neil Ross.

*H. KELLAND PRIZE.*

(*Subject of Examination*—Geometry.)

G. S. Duncan.

*I.—PATTERSON BURSARY IN ANGLO-SAXON.*

John Purves.

*II.—SECOND YEAR BURSARIES.*

(*Subjects of Examination*—Latin, Greek, and Mathematics.)

{ W. B. Brander.

E. B. Ross.

{ W. Booth Gravely.

G. A. Waters.

*III.—THIRD YEAR BURSARIES.*

(*Subjects of Examination*—Classics, Mathematics, and Logic with Psychology.)

W. H. Nelson.

Alexander Duthie.

J. M. Hendrie.

Roderick Barron.

GRADUATES IN ARTS.

HIGHER DEGREES.

1897.

DOCTOR OF LETTERS (D. LITT.).

Alexander Douglas Thomson, M.A. (Edin.).

1897.

DOCTOR OF PHILOSOPHY (D. PHIL.).

John Davidson, M.A. (Edin.).

Robert Latta, M.A. (Edin.).

Hugh Ross Mackintosh, M.A. (Edin.).

Patrick Johnston MacLagan, M.A. (Edin.).

1899.

James Black Baillie, M.A. *Thesis*—"The Growth of Hegel's Logic."

1900.

John Smyth, M.A. (N.Z.). *Thesis*—"Truth and Reality, with special reference to Religion."

## SPONSIO ACADEMICA FOR M.A.

Nos qui Nomina subsignamus Magisterii titulo jamjam donandi Spondemus nos in omni debitae gratitudinis officio erga Universitatem Academicam Edinburgensem ad extremum vitae halitum perseveraturos.

DEGREE OF M.A. WITH HONOURS—1899-1900 *inclusively*.

The names of all Graduates in Arts with Honours previously to 1889 will be found in the List of Graduates of the University published in 1889.

*The contractions Class., Phil., Math., Engl., Mod. Lang., and Nat. Sc., indicate the Departments or Groups of Classics, Mental Philosophy, Mathematics and Natural Philosophy, English, Modern Languages, and Natural Science, respectively; and the Italic Numerals, i., ii., and iii. indicate First, Second, and Third Class Honours respectively.*

## 1889.

*Class. i.*, Patrick Duncan, Harry Angus Alexander Kennedy, Thomas Ross Mills, Jas. Cruickshank Smith, John Tennant.  
*Class. ii.*, Robert Alex. Falconer, Alexander Harris Hutt.  
*Phil. i.*, Charles Mackinnon Douglas, William George Smith.  
*Phil. ii.*, David Walton Vaughan.  
*Math. i.*, James Ireland Craig, William Andrew Knowles, Jas. Fairbairn M'Kean.  
*Nat. Sc.*, Alexander Bremner, John Brown Clark, David Davidson, John Melvin Lowson, Robert Stewart M'Dougall, John Machray, John Hally Meikle, Harry Fisher Menzies, Alexander Gordon Wallace, John Young.

Dempster, Arthur Herbert Gray, Walter Hardie.

*Math. i.*, Charles Tweedie.

*Nat. Sc.*, James Adamson, William Lewis Martin, John Myles, Andrew Robertson Wilson.

## 1891.

*Class. ii.*, John Adam Norrie, William Gibson Wedderspoon.  
*Phil. i.*, Henry Barker, John Davidson, Walter Chas. Murray.  
*Phil. ii.*, Alexander Grieve, Wm. Allan Neilson, Alexander Joseph Pearse.  
*Math. i.*, John Forbes, Adam Mitchell Hunter, William Edward Philip, William Leslie Thomson, John Turner.  
*Nat. Sc.*, Robert Pollok, James Rodger Watson.

## 1890.

*Class. i.*, John MacLennan, James Watt.

*Class. ii.*, William Brereton Denison, William Barron Stevenson.

*Phil. i.*, Andrew Nisbet Bogle, Duncan Mackenzie, Thomas Dixon Rutherford, James Stewart.

*Phil. ii.*, Henry Reynolds Brown, William Elmslie Wilkie Brown

## 1892.

*Class. ii.*, Peter Campbell, William Gracie, Hugh Ross Mackintosh.

*Phil. i.*, Hugh Ross Mackintosh.

*Phil. ii.*, Thomas Linton, William Joseph Pennell.

*Math. i.*, James Mitchell.

*Math. ii.*, Alexander Campbell Mackay.

*Nat. Sc.*, John Smith Flett,

1893.

*Class. i.*, Robert Gordon McKerron.

*Class. ii.*, Walter Robertson Henderson, Hugh Lugton Jackson, Robert Montgomerie Samson.

*Phil. i.*, Alexander Beith Macaulay, Hugh Pattison Macmillan, Lilius Maitland.

*Phil. ii.*, William John Collier, Sydney Smith, William Finlayson Trotter.

*Math. i.*, Neil Macmichael.

*Math. ii.*, George Lowe Moffat, Frank Spence, Thomas Wilkie Wilson, James Wood.

*Nat. Sc.*, Frank Spence, William White Taylor, William Watson.

1894.

*Class. i.*, George Liddell, James Middleton Moore, Robt. Lindsay Ross.

*Phil. i.*, James Black Baillie.

*Math. i.*, Alexander George Burgess, John Watt Butters, Henry Herd, John Alexander Jonhston.

*Math. ii.*, Thomas Cleghorn Baillie.

*Nat. Sc.*, John Watt Butters.

1895.

*Class. i.*, Francis Dewar, William John Keith, Alexander Buchanan Macdonald, William Wallace M'Kechnie, Alfred Croom Paterson, William David Ross.

*Class. ii.*, George Duncan Low, Peter M'Gregor, James MacKenna, Charles Cunningham Watson.

*Phil. i.*, John Macaskill.

*Phil. ii.*, James Bonnar Russell, Robert Whyte.

*Math. i.*, John Forbes Cameron, Hugh Archibald Jamieson, James Alexander Macdonald, Thomas William Pickles.

*Math. ii.*, Robert Candlish Melville Bell.

*Engl. i.*, David Nichol Smith.

1896.

*Class. i.*, Charles Samuel Edgar, Alexander Macgregor, Jessie Thomson Muir.

*Class. ii.*, Marshall Newton Goold Gray, Tom Bell Maxwell Lamb, William Robb.

*Math. and Nat. Phil. i.*, William Jeffrey, Malcolm Caird M'Alpin, Andrew Cameron Smith, Frank Guthrie Smith.

*Math. and Nat. Phil. ii.*, John Smith Begg, Leopold Octavius Critchley.

*Engl. i.*, George Douglas Shepherd.

*Engl. ii.*, Emily Moir Milligan.

*Engl. iii.*, Louisa Reid Boyd.

1897.

*Class. i.*, Sidney George Campbell, William Alexander Curtis, Arthur Berriedale Keith, Donald Allan Macnaughton, Thomas Stewart Macpherson, William Cuthbert Morton.

*Class. ii.*, David William Inglis, Ethelwyn Lemon, William Mackenzie, George Robert Thomson Ross.

*Class. iii.*, Marcus Dods.

*Phil. i.*, Charles Macfie Campbell, Bruce M'Ewen, Frances Helen Melville, George Claus Rankin, George Robert Thomson Ross.

*Phil. ii.*, Alfred George Hogg.

*Math. and Nat. Phil. i.*, Richard Bell, Alexander Brown, James Chalmers Leighton.

*Math. and Nat. Phil. ii.*, David Macrae Aitken, George Ednie, William David Proudfoot.

*Engl. i.*, George Dundas Craig.

*Hist. i.*, John M'Farlane.

1898.

*Class. i.*, Victor Caldwell, William Dunbar, John Lees, Bernard Herrmann Richardson, James Stirling Ross.

*Class. ii.*, Alexander Flint, David Lindsay Norrie.

*Class. iii.*, Rosa Gertrude Caroline Stoltz.

*Phil. i.*, Archibald Scott Ballantyne, Alexander Darroch, John Adam Gray, David Hutchison Macgregor, Alexander Mair, Aeneas Rose.

*Math. and Nat. Phil. i.*, Ernest Masson Anderson, B.Sc., James Mitchell Low, John Brochie Meiklejohn, Hugh Mitchell, James Thomas Young, B.Sc.

*Math. and Nat. Phil. ii.*, Henry Alfred Braine, Patrick Sinclair Hardie, James Lornie.

*Math. and Nat. Phil. iii.*, Donald Banks, William Thomson.

*Eng. ii.*, Charles Henry Moore, William Porter.

*Mod. Lang. i.*, George Brown, James Melville.

*Mod. Lang. ii.*, Jessie Annie M'Kechnie.

*Hist. ii.*, Bessie Brown Bird, Alexander Barrie Robb.

1899.

*Class. i.*, James Young Bell, James Crerar, Augusta Murray Campbell Davidson, Charles Gordon Mackay.

*Class. ii.*, Donald James Boyd, Joseph Hardie Cattanach, Kenneth Neville Knox, Henry Crawford Liddell, Herbert Smiles, Ralph Alex. Wilson.

*Phil. i.*, Thomas Miller Forsyth, Liliás Amélie Geraldine Fraser, John Mackintosh Shaw.

*Phil. ii.*, George Wedderspoon.

*Math. and Nat. Phil. i.*, Robert Duncan Bell, David Drysdale, James Macdonald Dunnett, Archibald Milne, Samuel Findlater Stewart.

*Math. and Nat. Phil. ii.*, George Aimer Russell, Henry Wilkie.

*Math. and Nat. Phil. iii.*, Alexander Waddell.

*Eng. i.*, Thomas Paterson.

*Eng. ii.*, William Geddie, Charles Frederick Grant.

*Mod. Lang. i.*, Bessie Hunter Auld Robson.

1900.

*Class. i.*, James Bryce Jamieson, Kenneth Maclellan, William David Russell Prentice, William Rennie, Isabella Watt Stevenson.

*Class. ii.*, Thomas Davidson, George Victor Dunnett, Francis John Gordon, Harry Campbell Norman, Douglas Galton Robertson, Alexander Thomson.

*Phil. i.*, Alexander Mackie.

*Phil. ii.*, Edith Sophia Hooper, Jessie Chrystal Macmillan, B.Sc.

*Math. and Nat. Phil. i.*, Jessie Chrystal Macmillan, B.Sc.

*Math. and Nat. Phil. ii.*, Edward Blades, David Moncrieff Johnstone.

*Math. and Nat. Phil. iii.*, Robert Norrie.

*Eng. i.*, Edith Sophia Hooper.

*Eng. ii.*, John MacRae, Richard Hunter Moar.

*Mod. Lang. i.*, Jessie Lees, Johanne Frederikke Thomsen, Mary Tweedie.

*Mod. Lang. ii.*, Jessie Alice Linton, Robert Taylor.



HONOURS OBTAINED AFTER GRADUATION.

14th April 1899.

*Phil. iii.*, Peter Campbell (M.A.).  
*Mod. Lang. ii.*, Isabella Murray Ogilvie (M.A.).

ORDINARY DEGREE, 1899-1900.

29th July 1899.

William Darling. | Charles Black Milne.

21st October.

John Schiller Allison.	Adam Patterson Gray.
David Hamilton Christie.	James Harold Macdonald.
Edward Stafford Edie.	Harriet Joanna Campbell Mac-
Thomas Angus Fraser.	laren.
Kenneth Malcolm Sutherland	Murdo Maclean.
Graeme.	Williamina Nicol Sinclair.

14th April 1900.

Aim, James.	Hogg, Bessie Kay.
Anderson, Jessie Ellen.	Horn, Robert.
Bell, George Baird.	Hoyle, Helen.
Black, John Daniel M'Leod.	Hunter, James Young.
5 Brander, George Laing.	30 Hutcheson, Annie Clark.
Cairns, Thomas Alexander	Hutton, John Riddell.
Lorraine.	Irving, Robert Forsyth.
Cameron, Christina Anderson.	Jamieson, Charles.
Cameron, John Campbell.	John, Robert Griffith.
Clark, Annabella Gardiner.	35 Johnston, George Gilbert.
10 Clark, James Smith.	Johnstone, Robert William.
Cockburn, Robert William.	Kinghorn, James Stafford.
Colville, William Syme.	Linton, Frederick Thomas
Cowe, Elizabeth.	Churchill.
Craig, Marshall Millar.	Lochhead, James.
15 Cruikshank, John.	40 M'Gowan, John Pool.
Davidson, David Cruden.	Mackay, Adam.
Dawson, Percy Furneaux.	Mackenzie, Frank Ross.
Dunnett, Hamilton David	M'Laren, David John.
Forrester.	Miller, Mary Stewart.
Fenton, John Charles.	45 Milroy, Elizabeth Cunning-
20 Fleming, William Arnot.	ham.
Garriock, John.	More, John William.
Gifford, Thomas Johnstone	Morrison, Daniel Anton.
Carlyle.	Moyes, Robert.
Graham, John.	Nicholson, Dunbar.
Gray, Peter Drummond.	50 Nicholson, Norman.
25 Guthrie, John Craig.	Nicol, Thomas.

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| Ogilvie, John.<br>Orr, William Gladstone.<br>Paterson, Robert George.<br>55 Paton, David Duncan.<br>Philip, Robert James.<br>Reid, Frank.<br>Riach, Helen Jane Douglas.<br>Ritchie, James Chisholm.<br>60 Robertson, Alexander.<br>Robertson, Charles.<br>Rutherford, Margaret Scott.<br>Simpson, MacDuff Frederick. | Simson, Harry Macdonald.<br>65 Smith, William.<br>Swanston, Margaret Low.<br>Taylor, Charles Wm. Gray.<br>Thomson, Marion Amelia<br>Spence.<br>Walker, William.<br>70 Watson, John.<br>Watt, James Crabb.<br>Williamson, James.<br>Wilson, Marjory. |
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#### SCHOOLMASTER'S DIPLOMA, 1899-1900.

The Diploma was conferred on the following Candidates :—

##### *A.*—DIPLOMA FOR TEACHERS IN SECONDARY SCHOOLS.

*14th April 1900.*

- Robert Wilson Buchanan, M.A., B.Sc. Edin.  
 Jessie Alice Linton, M.A., Edin. (Second Class Honours in Modern Languages).  
 Archibald Milne, M.A., Edin. (First Class Honours in Mathematics).  
 Bessie Hunter Auld Robson, M.A., Edin. (First Class Honours in Modern Languages).  
 Johanne Frederikke Thomsen, M.A., Edin. (First Class Honours in Modern Languages).  
 Mary Tweedie, M.A., Edin. (First Class Honours in Modern Languages).

##### *B.*—GENERAL DIPLOMA.

*29th July 1899.*

Margaret Shankland Cook, M.A. (Edin.).

*21st October 1899.*

David Hamilton Christie, M.A. (Edin.).

*14th April 1900.*

- James M'Ash Gray, M.A., Edin.  
 Helen Hoyle, M.A., Edin.  
 Mary Stewart Miller, M.A., Edin.  
 Helen Stewart Neill, M.A., Edin.  
 Helen Jane Douglas Riach, M.A., Edin.

# Bursaries, Prizes, Scholarships, and Fellowships in Arts.<sup>1</sup>

## I.—BURSARIES.

NOTE—From the sums given below Income Tax will be deducted, which may be recovered by the Bursars; and in some cases a deduction will be made for expenses of administration. The accuracy of the figures is not guaranteed.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	16—	George Heriot.	<i>At present</i> £600 0 0	20	3	£30 0 0	Governors of George Heriot's Trust.
		Do. Bursaries for Women.	930 0 0	31	3	30 0 0	Do.
		Do. Geo. Heriot's School University Bursaries.	600 0 0	20	4	30 0 0	Do.
		Do. High School Univer. Bursaries.	270 0 0	9	3	30 0 0	Do.
II.	1619	Archibald Johnston, Merchant in Edin.	13 2 2	1	4	13 2 2	Earl of Haddington.
III.	{ 1622 1764 1766	John Trotter of Mortonhall, and Rev. J. Penman of Bothkennar.	12 18 1	1	4	12 18 1	Trotter of Mortonhall and Gilmour of Craigmillar, alternately.
IV.	{ 1626 1629 1640 1726	Hugh Wight, David M'Call, and David Christie.	13 1 1	1	4	13 1 1	Town Council.
V.	1639	Dr Robt. Johnstone of London.	31 10 0	2	4	15 10 0	Hope Johnstone of Annandale.
VI.	1639	Do. do.	25 0 0	2	4	12 10 0	Town Council.
VII.	{ 1642 1653 1696	Weir, Jenkins, Hepburn, and Lightbody.	11 7 9	1	4	11 7 9	Town Council, 1st and 2nd Presentations, and Campbell of Aberuchill, 3rd Presentation.
VIII.	{ 1644 1673	Jas. Dalgliesh. and Jn. M'Morran.	13 7 8	1	4	13 17 8	Town Council.
IX.	1678	John Penman, Bailie and Merchant, Edinburgh.	14 15 0	1	4	14 15 0	Society for the Benefit of the Sons of the Clergy.
X.	1678	Hector Ford of Branxton.	33 6 6	3	4	11 2 2	Town Council.
XI.	1687	Sir Andrew Ramsay of Abbotshall.	11 2 2	1	4	11 2 2	Do. and Ministers of Edinburgh.
XII.	1698	Ad. Chrystie, Under Clerk of Session.	18 0 0	1	4	18 0 0	Faculty of Advocates.
XIII.	1702	Thos. Bryson, Bailie and Merchant in Dunbar.	24 0 0	2	4	12 0 0	Ministers of the Presbytery of Dunbar.
XIV.	{ 1703 1725	Pringle and Wardrop.	17 3 10	1	4	17 3 10	Pringle of Torwoodlee and J. C. Wardrop, W.S., alternately.

<sup>1</sup> See Conditions, page 160.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
XV.	1714	Rev. Robert Brown, of Protestant Consistory at Zamose.	£25 0 0	2	4	{ 15 0 0 10 0 0	Town Council.
XVI.	1723	Alexander Mitchell and James Shortt.	22 0 0	1	4	£22 0 8	Livingston Learmonth of Parkhall and his heirs; Earl of Morton and his heirs.
XVII.	1734	Laurence Dundas, Professor of Humanity in the University of Edin.	About 42 0 0	2	4	About 21 0 0	Jas. Dundas of Dundas, Robt. Dundas of Arniston, and Dundas of Carronhall, by turns.
XVIII.	1768	Thos. Fraser, Clerk in the office of City Clerk, Edinburgh.	43 10 0	2	7	21 15 0	The Provost, Dean of Guild, and Treasurer of Edin.
XIX.	1784	William Hume, Eastbarns, Dunbar.	24 0 0	2	4	12 0 0	Ministers of the Presbytery of Dunbar.
XX.	1784	Rev. Jas. Millar and Spouse.	24 0 0	1	4	24 0 0	Kirk-Session of Kippen.
XXI.	1809	Dr Donald Grant, London.	About 180 0 0	4	4	About 45 0 0	Earl of Seafield, and James Mackenzie, W.S., as Dr Grant's Trus.; whom failing, Sen. Acad.
XXII.	1810	Rev. James Stuart.	36 0 0	2	3	18 0 0	Senatus Academicus.
XXIII.	1837	James Menzies.	200 0 0	4	4	45 0 0	Sir R. Menzies, Bart., & Ministers of Dull. Weem, & Fortingall.
XXIV.	1837	Peter Dow, Esq. of Balmyle.	20 0 0	2	4	10 0 0	P. S. Keir, Esq. of Kindrogan, J. Small, Esq. of Dirnanean, and W. A. Keir, Esq., Yr. of Kindrogan.
XXV.	1838	Robert Blair, D.D., Barton St Andrews, Norfolk.	9 12 6	1	3	9 12 6	Principal, and Profs. of Latin, Greek, Mathematics, Logic & Metaphysics, and Moral Philosophy.
XXVI.	1846	John Jamieson, Esq., Edinburgh.	About 26 0 0	1	4	About 26 0 0	Principal, & two Profs. of the University.
XXVII.	1846	G. P. Bidder, C.E.	43 12 0	1	4	43 12 0	Senatus Academicus.
XXVIII.	1852	Wm. Lennie, Esq.	48 0 0	4	4	12 0 0	Town Council.
XXIX.	1853	John Bruce, Esq., Trinity Crescent, Edinburgh.	160 0 0	{ 1 4 4 4	{ 4 4 30 0 0	{ 40 0 0 30 0 0	} Do.
XXX.	1858	M <sup>d</sup> Diarmid Trustees.	10 0 0	1	3	10 0 0	Senatus Academicus.
XXXI.	1860	Wm. Patrick, Esq., of Roughwood.	About 150 0 0	3	4	About 50 0 0	Principal and Professors in Arts.
XXXII.	1858	Edin. Ayrshire Club.	60 0 0	2	2	30 0 0	Edin. Ayrshire Club.
XXXIII.	1863	Peeblesshire Society.	20 0 0	1	4	20 0 0	Peeblesshire Society.
XXXIV.	1864	Edin. Caithness Association.	10 0 0	1	4	10 0 0	Edin. Caithness Association.

<sup>1</sup> See Conditions, page 162.

No. of Founda- tion.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars	For Years.	Annual Allowance to each Bursar.	Patrons.
XXXV.	1864	A. H. Rhind of Sibster.	£500 0 0	1	4	About £20 0 0	Edin. Caithness Asso.
XXXVI.	1865	Mrs Margt. Tyndall Bruce, of Falkland.	165 0 0	3	3	35 0 0	} Senatus.
				3	3	20 0 0	
XXXVII.	1865	Horsliehill Scott.	66 12 8	2	2	33 6 4	Do.
XXXVIII.	1867	Miss Hannah Harrison, of Lasswade.	33 5 0	1	2	26 5 0	Do.
XXXIX.	1867	Rev. John Spence	About 200 0 0	5	2	1st Year 30 0 0 2nd Year 40 0 0 3rd Year. 50 0 0	Governors of the Spence Bursary Trust.
XL.	1869	Edin. Border Counties Association.	50 0 0	1	4	30 0 0	} Edinburgh Border Counties Assoc.
	1872			1	4	20 0 0	
XLI.	1869	Argyllshire, Bute, and Western Isles Asso.	20 0 0	1	3	About 20 0 0	Argyllshire Association.
XLII.	1870	Stewart of Ardvorlich.	16 0 0	1	4	16 0 0	Proprietor of the Estate of Ardvorlich.
XLIII.	1870	David Cowan.	About 35 0 0	1	2	About 30 0 0	} Governors of Ayr Educational Trust.
				1	1	20 0 0	
XLIV.	1871	J. Robertson Sibbald.	150 0 0	5	3	30 0 0	Tr. of Dr J. R. Sibbald.
XLV.	1872	Angus Club.	25 0 0	1	4	25 0 0	Angus Club.
XLVI.	1873	Earl of Zetland.	About 40 0 0	1	3	About 40 0 0	Trustees of Earl of Zetland.
XLVII.	1873	The Grierson Trus.	104 0 0	4	4	20 0 0	} Senatus Acad.
				1	4	26 0 0	
XLVIII.	1874	Upper Ward of Lanarkshire.	20 0 0	2	4	20 0 0	Upper Ward Assoc.
XLIX.	1874	Johnstone of Harthope.	16 5 0	1	4	16 5 0	Senatus Acad.
L.	1874	James Lambert.	About 40 0 0	1	4	About 40 0 0	Senatus Acad.
LI.	1875	Robert Marshall.	32 10 0	1	4	32 10 0	Senatus Acad.
LII.	1876	J. Fotheringham of Heathpool.	39 13 0	2	4	19 5 0	Senatus Acad.
LIII.	1877	Earl of Zetland.	40 0 0	1	3	40 0 0	Trustees.
LIV.	1878	Edin. E. Lothian Asso.	20 0 0	1	3	20 0 0	Association.
LV.	1878	Jas. Gillan, Forres.	63 0 0	3	3	21 0 0	Mr Gillan's Trustees.
LVI.	1878	Dr Andrew Thomson.	100 0 0	4	4	25 0 0	Trus. of Dr Thomson.
LVII.	1880	Rev. John Patterson.	16 2 4	1	2	About 16 2 4	Senatus Academicus.
LVIII.	1881	Thomas Carlyle.	About £160	8	4	20 0 0	Senatus Acad.
LIX.	1883	Subscribers to Mackinnon Testimonial	£60 18 6	3	3	20 5 0	Senatus Acad.
LX.	1882	James Whitelaw.	71 2 6	3	3	23 13 4	Senatus Acad.
LXI.	1883	William Renton, Edinburgh.	20 0 0	1	1	20 0 0	Profs. Chrystal, Tait, Crum Brown, and Nicholson.
LXII.	1883	Isabella Macdougall.	About 120 0 0	4	3	About 30 0 0	Trustees.

<sup>1</sup> See Conditions, page 164.

No. of Foundation.	Year Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
LXIII.	1886	Rob. P. Newton of Castlandhill.	£86 19 4	4	2	£21 14 2	Senatus Academicus.
LXIV.	1886	Pet. C. Mannof Nairn and Durham.	20 0 0 About	3	3	26 13 4 About	Senatus Academicus.
LXV.	1886	Richd. Allan, Feuar, Kelso.	90 0 0	3	3	30 0 0	Trustees of R. Allan.
LXVI.	1887	Mrs Kidd of Aigbarth, near Liverpool.	34 0 0 About	1	4	34 0 0 About	Senatus Academicus.
LXVII.	1887	Charles Jardine of Thorlieshope.	151 10 0 About	4	4	35 0 0 About	Senatus Academicus.
LXVIII.	1887	Charles Howatson, Esq. of Dornel and Glenbuck.	27 0 0 About	1	3	27 0 0 About	Trustees.
LXIX.	1888	Mrs Harriet E. Morrison.	27 0 0 About	1	4	27 0 0 About	Senatus Academicus.
LXX.	1889	Daniel Maclaurin, London.	62 10 0 About	1	4	62 10 0	Town Council.
LXXI.	1889	James Simson, Edinburgh.	150 0 0	6	3	25 0 0	Presbytery of Edinburgh.
LXXII.	1890	George Cousin.	23 0 0	1	3	23 0 0	Senatus Academicus.
LXXIII.	1890	Rev. Thomas Maule.	85 10 0	4	6	21 7 6	Principal, and Profs. of Humanity & Greek.
LXXIV.	1891	Donald Fraser, M.D., London, and Endowment Association.	51 0 0	1	1	51 0 0	Senatus Academicus.
LXXV.	1897	Misses Baxter of Balgavies.	60 0 0 About	2	3	30 0 0 About	Senatus Academicus.
LXXVI.		James Stewart, Duart.	35 0 0	1	3	35 0 0	Kirk-Sess. of Callander and Trossachs.

## CONDITIONS OF TENURE.

I. These *Heriot Bursaries* are for Students unconnected with the George Heriot's School, entering upon a regular Curriculum in Arts or Science with a view to graduation. *Bursars*—1899, C. L. Philip, Stewart Waterston, A. J. D. Lothian, D. H. Wares, A. H. Scott, J. H. Aikman, Wm. Henderson.

*Heriot Bursaries for Women.* These Bursaries are for Women Matriculating for the first time at the University with a view to graduation in Arts or Science, and cannot be held along with any other Bursary or Scholarship. *Bursars*—1899, Madeline S. Edgar, Grace Fergie, Lilian S. Ross, Marion T. Moffat, Margaret J. Ewan, Mary S. Govan, Minnie Moore, Elizabeth Reid.

*George Heriot's School University Bursaries.* These are awarded by competitive examination among Scholars attending the George Heriot's School, and may be held at any University approved by the Governors. *Bursars*—1899, Samuel S. Anderson, James D. Fulton, Wm. A. K. Christie, George Kitchin, James Watson.

<sup>1</sup> See Conditions, page 168.



*Heriot High School University Bursaries.* These are awarded by competitive examination among Scholars attending the High School, Edinburgh, and may be held at any University approved by the Governors. *Bursars*—1899, Wm. Farquharson, John Handyside, H. W. Jamieson.

II. *A. Johnston Bursary.*—Each Bursar is entitled to hold this Bursary for four years, subject to the conditions that he shall pass such examination as may be required of Presentation Bursars, and shall proceed through the Curriculum in Arts, and pass the Examinations for M.A. appropriate to each year. No one is permitted to hold the Bursary along with any other Bursary in the University. The Bursar must attend the Classes in the Arts Curriculum.

III. *Trotter and Penman Bursary.* This Bursary is held under the same conditions as No. II.

IV. *Wight, M'Call, and Christie Bursary.* This Bursary is held under the same conditions as No. II.

V. and VI. *R. Johnstone Bursaries.*—By Ordinance No. 82, the holder of each of the four Robert Johnstone Bursaries is entitled to hold his Bursary for four years, subject to the condition that he shall pass the Preliminary Examination or its equivalent, and shall proceed through the Curriculum in Arts, and regularly pass the Examinations required for the degree of M.A. No person is allowed to hold any of these Bursaries along with any other Bursary in the University. Agents, Messrs Hope, Todd & Kirk, W.S., 119 Princes Street, Edinburgh, agents for the Patron. *Bursars*—John Graham, Andrew Glendinning.

VII. *Weir, Jenkins, Hepburn, and Lightbody Bursary.*—For a Student in Arts, who must pass the Preliminary Examination or its equivalent, and follow the Curriculum for the Degree of M.A.

VIII. The *Dalglish and Macmorran Bursar* must pass the Preliminary Examination or its equivalent, and proceed through the Curriculum in Arts in the University, and regularly pass the Examinations required for the Degree of M.A.

IX. *Penman Bursary.*—The Bursar must attend the Classes in the Arts Curriculum. *Bursar*—Alexander F. Jack.

X. Each *Ford Bursar* is entitled to hold his Bursary for four years, subject to the condition that he shall pass the Preliminary Examination or its equivalent, and shall proceed through the Curriculum in Arts, and regularly pass the Examinations required for the Degree of M.A. No person is permitted to hold any of the Bursaries along with any other Bursary in the University.

XI. The *Sir A. Ramsay Bursar* holds his Bursary for four years, subject to the condition that he shall pass the Preliminary Examination or its equivalent, and shall proceed through the Curriculum in Arts, and regularly pass the Examinations required for the degree of M.A. No person is permitted to hold either of the Bursaries along with any other Bursary, Fellowship, or Scholarship of any Scottish University.

XII. The *Chrystie Bursary* is held for four years. Candidates must pass the Preliminary Examination or its equivalent. The Bursar is taken bound to attend "the usual classes," and must produce yearly to the Faculty certificates from the respective Professors of his due attendance, and the diligent prosecution of

his studies. Candidates are referred for information to the Clerk to the Faculty of Advocates, Advocates' Library.

XIII. The *Bryson Bursary* must pass the Preliminary Examination or its equivalent, and are first to enter the Humanity class : afterwards to pass through the rest of the classes in Arts until their Laureation ; at which time, if judged by the ministers of the Presbytery of Dunbar fit for the study of Theology, they may continue for two years in Theology.

XIV. The *Pringle and Wardrop Bursary*.—The Bursar must pass the Preliminary Examination or its equivalent, and attend the classes in the Curriculum in Arts for M.A. *Bursar—James W. E. Gladstone.*

XV. The *Brown Bursaries* are payable to Bursars who must pass the Preliminary Examination or its equivalent, and attend the regular course of study in Arts for M.A.

XVI. The *Mitchell and Shortt Bursary* is payable to a Student who must pass the Preliminary Examination or its equivalent, during the regular course in the Faculty of Arts. *Bursar—Edward B. Ross.*

XVII. *Dundas Bursaries*.—By Ordinance No. 78 of the Universities' Commissioners, each person presented to either of the Dundas Bursaries is entitled to hold the same for four years as a Student of Arts, subject to the conditions that he shall pass the Preliminary Examination or its equivalent, and proceed through the Curriculum in Arts, and shall regularly pass the Examinations required for M.A. These Bursaries cannot be held with any other Bursary in the University. Apply to G. Auldjo Jamieson, Esq., 24 St Andrew Square, Edinburgh. *Bursar—A. P. Duffes.*

XVIII. The *Fraser Bursaries*.—Bursars must pass the Preliminary Examination or its equivalent, and proceed through the curriculum till they finish their course and take the Degree in the Faculty of Arts. The Bursaries are held for three years thereafter ; the Bursars making their election whether to follow Divinity, Law, or Medicine. Two Classes at least must be attended each Winter Session. Candidates should apply to the City Clerk, Council Chambers, Edinburgh.

XIX. The conditions of the *Hume Mortification* correspond with those of Bryson's, No. XIII., and the presentations and payments are made as in that case.

XX. *Millar Bursary*.—To be held by a Student intended for the Ministry in the Church of Scotland, during his Curriculum in the Faculty of Arts. Bursar must pass the Preliminary Examination or its equivalent.

XXI. The *Grant Mortification*. Tenable in the Faculties of Arts, Science, Divinity, Law, or Medicine. Applications for information may be made to Messrs Mackenzie, Innes, & Logan, W.S., 23 Queen Street, Edinburgh.

XXII. *Stuart Bursaries*.—Open to Students entering upon the second year of their course for graduation in Arts or in Pure Science. The said Bursaries shall be tenable for three years, provided that if the holders graduate at the end of their second year of tenure they shall only retain their Bursaries during the third year of tenure if they engage in a course of study approved by the Senatus Academicus in subjects included in the Curriculum for Degrees in Arts or in Pure Science.

*Bursars*—1896, J. M. Dunnett; 1898, W. N. Prophet, S. G. Corner, for two years.

XXIII. *Menzies*.—These Bursaries, four in number, were founded in 1837 by James Menzies, Esq., Glasgow. They are of the annual value of £45 each, but vary in amount at discretion of the patrons, and tenable for four years, in any one of the Universities of St Andrews, Glasgow, or Edinburgh. Preference first to the relations of the Founder; next, to the name of Menzies; failing whom, to persons born on the estate of Sir Robert Menzies, Bart., within the parishes of Dull, Weem, and Fortingall; failing whom, any Student who shall be found best qualified may be appointed. Candidates must pass the Preliminary Examination.

XXIV. *The Dow Bursaries* are tenable for four years, “at any of the Scottish Universities, St Andrews in preference.” Apply to the Patrons.

XXV. The *Blair Bursar* must pass the Preliminary Examination, attend the Classes, and pass the Examinations necessary for the Degree of M.A. *Bursar*—1898, R. F. Lindsay.

XXVI. The *Famieson Bursary* is for the benefit of the sons of schoolmasters, farmers, mechanics, and labourers, born and residing within any one of the following parishes—viz., Crawfordjohn, Crawford, united parishes of Lamington and Wandell, united parishes of Wiston and Robertson, Culter and Biggar. The Bursar must pass the Preliminary Examination or its equivalent. He may attend Classes in any of the Faculties. *Bursar*—1898, Thomas W. Stewart.

XXVII. Called the “*Jardine Bursary*,” being founded by Mr Bidder, C.E., as a memorial of the munificence of Sir Henry Jardine to him, to which he owed the advantage of his education at the University of Edinburgh. Candidates must be natives of Scotland. The Bursar must pass the Preliminary Examination or its equivalent, and attend the Classes, and pass the Examinations necessary for the Degree in Arts. *Bursar*—1896, Alexander Thomson.

XXVIII. *Lennie Bursaries*.—Bursars must pass the Preliminary Examination or its equivalent, and attend the Classes in the Arts Curriculum. Candidates should apply to the City Clerk, Council Chambers, Edinburgh.

XXIX. *Bruce Bursaries*.—Prior to the commencement of each Winter Session five Students are presented yearly, the most distinguished of the five receiving the £40 Bursary. The Bursars must be in regular attendance on the Classes necessary for the Degree of Master of Arts. Candidates to apply to the City Clerk, Council Chambers.

XXX. The *M<sup>c</sup>Diarmid Bursary* is a memorial of the late John M<sup>c</sup>Diarmid Esq., Editor of the *Dumfries and Galloway Courier*. Candidates must be native of the county of Dumfries or the stewartry of Kirkcudbright. The Bursar must pass the Preliminary Examination and attend the Classes and Examination necessary for the Degree of Master of Arts. Applications regarding the Bursary to be made to “H. Gordon, Esq., Dumfries.” *Bursar*—1899, A. J. Scott.

XXXI. The *Patrick Bursaries* are for the assistance of those who have completed a course of education at any of the public schools or academies in the county of Ayr, where a course of Classical Study is pursued. The rectors or head teachers of each of said schools or academies may grant a certificate or letter to any number, not exceeding four, of the best scholars who have completed the course of education at such school or academy, and are in a position to enable

them to apply for admission to the University; and the parties holding such letters or certificates are entitled to present themselves for examination as candidates for the Bursaries. Failing qualified candidates, the Senatus may award by open competition. The Bursars must attend the Classes and pass the Examinations necessary for the Degree in Arts, in the order required by the Faculty. See p. 197 of CALENDAR for 1865-66. *Bursars*—1896, G. O. Dunnett, James Girdwood, William Legat; 1898, *P. B. M. Macaulay*.

XXXII. *Ayrshire Club Bursaries*.—Restricted to natives of Ayrshire, men or women, and tenable for two years. Apply to the Secretary of the Club, Andrew White, Esq., W.S., 23 Castle Street, before 15th September. *Bursar*—1898, *W. Gemmill*.

XXXIII. *Peeblesshire Society Bursary*.—Open to Candidates of either sex who intend to pursue the Curriculum in Arts, Science or Medicine. Apply to the Secretary of the Society, P. H. Cosens, Esq., W.S., 22 York Place, Edinburgh. *Bursar*—1896, James Robert Lindsay.

XXXIV. and XXXV. *Caitness and Rhind Bursaries*.—Bursars must attend Classes in Arts Curriculum. Apply to Secretary of the Association, Mr A. Laing, S.S.C., 41 Charlotte Square, Edinburgh.

XXXVI. *Bruce of Grangehill and Falkland's Bursaries*.—Three of these Bursaries, of the annual value of £35, are awarded after competitive examination to Students of the *second* year in their course of study for a Degree in Arts; and three others, of the annual value of £20, to Students entering the *first* year of the Arts Curriculum. *Bursars*—First year, 1897, G. T. Ford; 1898, *Peter White*, *Peter Connell* (two years), *J. P. Lawson*; second year, 1897, J. B. Jamieson; 1898, *F. J. Gordon*; 1899, *E. B. Ross*.

XXXVII. *Horsliehill-Scott Bursaries*.—Annual value £33, 6s. 2d., under deduction of £6, 6s. for Examiners' fees from first year's payments. Open to Students in the *third* year of their course for a Degree in Arts, and tenable for two years. The examination is in Classics, Mathematics, and Logic and Metaphysics. Deed of Foundation, at p. 208 of CALENDAR for 1866-67. *Bursars*—1898, *J. A. Ferguson*; 1899, *W. H. Nelson*.

XXXVIII. The *Harrison Bursary* is of the annual value of £33, 5s., under deduction of £6, 6s. of Examiners' fees from first year's payments. Open to Students in the *third* year of their course in the Faculty of Arts, with a view to a degree, and tenable for two years. It is to be awarded to the competitor who shall show the greatest proficiency in Classics, Mathematics, and Logic and Metaphysics. See Deed of Endowment, p. 231 of CALENDAR for 1867-68. *Bursar*—1899, *J. M. Hendrie*.

XXXIX. *Spence Bursaries*.—By the regulations of the Governors, two Bursaries, each of the annual value of £30 for the first year and £40 for second year of tenure, are open to Students of either sex who, after passing the preliminary examination, or such other examination as may from time to time be accepted by the Joint Board of Examiners as equivalent thereto, have attended one Winter Session or its equivalent in the Faculty of Arts in the University of Edinburgh, and have attended at least two classes qualifying for Graduation, and who intend to complete the course of study for the degree of Master of Arts at the University. The Governors may award to any Bursar, if they are satisfied of his or her merit,



a continuation Bursary of an annual value of £50, tenable for one year, on condition that the Bursar shall for that year attend such a curriculum of study in any of the Faculties as the Governors may approve. Subjects of Examination are Latin, Greek, and Mathematics. Candidates apply to Mr Henry A. Pattullo, Solicitor, 1 Bank Street, Dundee, Factor to the Trust, for particulars.

XL. *Border Counties and Sir Walter Scott Bursaries*.—These Bursaries are open to competition by Scholars (women as well as men) who have attended a school in either of the Counties of Roxburgh, Berwick, Selkirk, or Borough of Berwick-on-Tweed, for two complete sessions immediately prior to the time of their examination for the Bursaries. The Bursars must attend the classes necessary for a Degree in Arts. Application to be made to Mr T. Usher, Sheriff Court House, Edinburgh.

XLI. *Argyllshire Bursary*.—Candidates (male or female) must be natives of Argyllshire, Bute, or Western Islands. The holder must attend the classes necessary for a Degree in Arts. Application to be made to George A. Munro Esq., S.S.C., 6 Rutland Square, Edinburgh.

XLII. *Ardvorlich Bursary*.—Open to Students of Arts, natives of the parishes of Comrie, Balquhider, Callander, or Killin, failing whom, to natives of Perthshire, and failing such, to the best qualified candidate. Candidates must show that they require aid in obtaining a University education. The holder must pass the Preliminary Examination or its equivalent. He will also be examined in Preliminary Gaelic, and must attend Arts or Science classes. The Bursary cannot be held with any other Bursary exceeding £25 annually. For remodelled Foundation, see CALENDAR 1887-88, p. 501; for original deed, see p. 275 of CALENDAR for 1870-71. *Bursar*—1898, D. H. Ash.

XLIII. *Cowan Bursary*.—Candidates must be about to enter the Curriculum in Arts. Annual value for first two years £30, and £20 for third year, to be held alternately at Edinburgh and Glasgow Universities. Information will be afforded by J. G. M'Skimming, Esq., Accountant, Ayr. *Bursar*—1898, David Lees.

XLIV. *Sibbald Bursaries*.—The Bursaries are available to Students in the Faculties of Arts, Medicine, Law, or Divinity, and are open to Students entering the University who have not previously attended any University in the United Kingdom or elsewhere, and who do not hold any other Bursary or Scholarship; but there will be no objection to a Candidate that he has, during the previous Summer Session, attended any of the Classes in the University of Edinburgh required by the Faculties of Medicine or Law. See CALENDAR for 1888-89 pp. 171 and 177. Application to be made to Messrs Mackenzie, Innes, & Logan W.S., 23 Queen Street, Edinburgh. *Bursars*—1897, A. R. Low, A. J. Sturrock 1898, J. M. McIntosh.

XLV. *The Angus Club Bursary*.—Open to Forfarshire students entering the University for the first time. Application should be made to the Secretary of the Club, Mr William Whyte, S.S.C., 4 Albyn Place, Edinburgh.

XLVI. *Orkney and Zetland Bursary*.—Open in 1901 to first year Student (male or female), natives of the Islands or County of Orkney and Zetland, or children of parents one or both of whom shall have been born in or connected for a long period of years with the said Islands or County. It is tenable for three years. The Bursar must attend the Classes in the Curriculum in Arts, with a

view to a Degree. Applications to be sent to Messrs Dundas & Wilson, C.S., 16 St Andrew Square, Edinburgh. The Deed of Foundation will be found in CALENDAR for 1873-74, p. 329.

XLVII. *Grierson Bursaries*.—Four Bursaries of £20 each, and one of £24, awarded annually in November. They are restricted in the first place to natives of either of the parishes of Crawford or Leadhills, who must pass the Preliminary Examination or its equivalent. In the event of more than one preferential Candidate, the examination is competitive. If no preferential Candidates, the Bursaries are thrown open for competition to all Students then intending to enrol in the University for the First Session of the Curriculum in Arts, the subjects of examination being as for open Bursaries of the First Year. *See* Trust Disposition of Founder at p. 335 of CALENDAR for 1873-74, and p. 368 of the CALENDAR for 1877-78. *Bursars*—1897, J. S. Kinghorn, F. H. T. Gray; 1898, *W. B. Graveley, J. M. Sutherland*; 1899, *George Robertson, J. H. MacLagan-Wedderburn*.

XLVIII. *Lanarkshire* (Upper Ward of) *Bursaries*.—Examination as for preferential Bursaries.—Bursars must attend the Classes in the Arts Curriculum. For further particulars apply to Mr R. Brown, Secretary, 28 St Andrew Square.

XLIX. *Johnstone of Harthope Bursary*. Natives of Moffat, Peebles, and Students of the name of Alexander or Johnstone preferred, if applications (with proof of birth) be made to Secretary of Senatus before 1st of September. The successful candidate must attend the Classes in the Faculty of Arts, and take the Degree of M.A. *See* Deed of Foundation, at p. 350 of CALENDAR for 1875-76. *Bursar*—1899, *Daniel Johnstone*.

L. *Lambert Bursary*.—This Bursary cannot be instituted until after the death of an annuitant. *See* Deed of Foundation, at p. 342 of CALENDAR for 1875-76.

LI. *Marshall Bursary*.—Restricted in the first place to relatives of Founder, next to Students of the name of Marshall, and natives of West Lothian. *See* Deed of Foundation, at p. 347 of CALENDAR for 1876-77. *Bursar*—1896, J. M. Marshall.

LII. *Fotheringham and Forrest Bursaries*. Restricted in the first place to relatives of the Founder, in the second to such as are of the name of Fotheringham, and in the third place to such as are of the name of Forrest, and failing all these to be awarded as an open Bursary. The successful candidate must attend the Classes in the Faculty of Arts, and take the Degree of M.A. *Bursar*—1897, Thomas Nicol; 1898, *A. W. Madsen*.

LIII. *Earl of Zetland's Bursaries*.—These Bursaries are open to First Year Students (male or female) in the Faculty of Arts, who are natives of the Islands or County of Orkney and Zetland, or children of parents, one or both of whom shall have been born in or connected for a long period of years with the said Islands or County. For Deed of Foundation of these Bursaries, *see* p. 373 of CALENDAR for 1877-78. Application to be made to Messrs Dundas & Wilson, C.S., 16 St Andrew Square, Edinburgh.

LIV. *Edinburgh East Lothian Association's Bursary*.—The Bursary may be competed for by any lad under the age of 18, who has been educated at any school in East Lothian, or who, having passed through all the standards or their equivalents at such schools, shall have afterwards attended for not more than three sessions any secondary school within or without the county. Application may be made to J. Purves, S.S.C., 65 Frederick Street, Edinburgh.



LV. *Gillan Bursaries*.—Founded in 1878 by James Gillan, draper, Forres. These Bursaries are for the support at the University, and at the New College, Edinburgh, of two young men connected with the parish of Forres, and one connected with Dyke, who have declared their intention to study for the ministry of the Free Church of Scotland. For particulars apply to Messrs R. & R. Urquhart, Solicitors, Forres.

LVI. *Thomson Bursaries*.—Candidates of the name of Thomson or Traquair, or natives of town or county of Dumfries or city of Edinburgh, preferred. See Deed of Foundation, p. 367 of CALENDAR, 1877-78, and Scheme of Allocation, p. 346 of CALENDAR, 1879-80. Applications to be made to Messrs Traquair, Dickson & Maclaren, W.S., 11 Hill Street. *Bursars*—1897, R. W. Johnson; 1898, C. D. O. Barrie; 1899, Robert Younger.

LVII. *Patterson Bursary, in Anglo-Saxon, Grammar, and Literature*.—Open to Students in the second, third, or fourth year of their Matriculation who have attended the class of English Literature. The holder must produce a Certificate of Attendance on the Honours Course in English Language in the first Session after his appointment. The Examination will include Anglo-Saxon, Grammar, Translations of passages of Anglo-Saxon prose and verse, and the History of Anglo-Saxon Literature. See Deed of Foundation at p. 379 of CALENDAR for 1880-81. 1900, Lapsed Bursary—A. C. Murphy, M.A.

LVIII. *John Welsh Bursaries*, founded by Thomas Carlyle in 1881, in memory of his Father-in-law, to whom the estate of Craigenputtock in Dumfriesshire bequeathed by Mr Carlyle to the University of Edinburgh, formerly belonged. The Bursaries are paid from the rents of that estate, and are eight in number, of the value of about £20 each, tenable for four years. They are awarded, after competition, to Students entering the University, who have not studied in any other University. Four are to be given to the competitors most proficient in Mathematics, and four to those most proficient in Classics. They are not to be held with any other Bursary. See Deed of Foundation at p. 379 of CALENDAR for 1881-82. *Bursars*—(Classical)—1898, W. B. Brander; 1899, J. L. Geddie. (Mathematical)—1898, J. A. A. Morrison; 1899, John Anderson, James Black.

LIX. *Mackinnon Bursaries*.—Three Bursaries about £20, 6s. 2d., tenable for three years, to encourage the study of the Mechanical Sciences. Each Bursary is open for competition to Students entering their First Session in the Faculty of Arts. Candidates must be natives of the counties of Argyll, Bute and Arran, Inverness, Ross or Sutherland, and must be able to speak the Gaelic language. The Examination is held at the annual competition for Bursaries at the beginning of each Session, with an additional examination in Gaelic by the Professor of Celtic; at least 10 per cent. of the total marks attainable being assigned to Gaelic. Each Bursar is bound to attend at least two classes in the Faculty of Arts during his tenure, and among these six classes, at least one class of Mathematics, one of Natural Philosophy, and the class of Engineering. The Bursaries cannot be held along with any other Bursary, Scholarship, or Fellowship in a Scottish University, or with any office yielding an annual income of £50 or upwards, and is tenable only during good behaviour and proficiency. *Bursars*—1897, John M'Dougall, J. D. M. Black; 1898, Charles Macpherson; 1899, D. C. Gordon.

LX. *Whitelaw Bursaries*.—In memory of James Whitelaw, Watchmaker. Three Bursaries, about £23, 14s. 2d. each, tenable for three years, open to Students about to enter, or who follow the Curriculum in Arts. Cannot be held along with any other Bursary, Scholarship, or Fellowship in a Scottish University, or with any office yielding £50 annually, or upwards. Examination in October annually. *Bursars*—1896, Thomas Davidson; 1897, D. C. Davidson; 1898, J. A. Cameron, C. F. Allan.

LXI. The *Renton Bursary*, founded by the Trustees of the late William Renton, 20 Royal Terrace, Edinburgh, is not restricted to Students of the first year. The holder must attend one or more of the classes of Natural Philosophy, Mathematics, Chemistry, or Political Economy. Pecuniary circumstances will be taken into consideration. It cannot be held by anyone under the age of sixteen or above twenty-one, or with another Bursary of the annual value of £30 or upwards. The examination is in English and Mathematics, as for the First Year Open Bursaries. *Bursar*—1899, A. K. R. Paton.

LXII. The *Macdougall Bursaries* are open to Students of Edinburgh, Glasgow, and St Andrews Universities. Students attending the Gaelic Class to be preferred. The Bursaries cannot be held with any Bursary or appointment yielding upwards of £50 per annum. See Deed of Foundation at p. 435 of CALENDAR 1885-86. Application may be made to Mr W. C. Young, solicitor, Perth.

LXIII. *Newton Bursaries*.—Two are awarded annually, one to the most distinguished Student in the Junior Class of Natural Philosophy, and one in the Senior (Second) Class of Mathematics. The Bursaries are tenable for two years, and the Bursars must continue their studies in the higher branches of the subjects of their Bursaries, and at the end of the second year of tenure, either take Honours in Mathematics and Natural Philosophy, pass the 2nd B.Sc. Examination, or give other evidence of advanced study in Mathematics or Natural Philosophy. These Bursaries are not to be held with other Scholarships or Bursaries. See Deed of Foundation, p. 460 of CALENDAR, 1886-87. *Bursars (Math.)*—1900, Frank Ross; (*Nat. Phil.*)—1900, G. A. Carse.

LXIV. *Mann Bursaries*.—(1.) Candidates must be children of residents in the town of Nairn, *i.e.*, one or both parents must have resided within the municipal boundaries for at least twelve months at any period prior to the competition. (2.) Applications must be lodged with the Clerk of Senatus at least three weeks before the Annual Bursary Examination of the University, along with evidence of compliance with Rule I. (3.) One will be awarded annually to the candidate, matriculating for the first time in this University, who obtains the highest marks at the Entrance Bursary Examination in English, Latin, Greek, and Mathematics, provided the Examiners be satisfied with the standard he has attained. (4.) Each will be tenable for three years, value about £25 per annum. (5.) Failing candidates of the first year, the vacant Bursary will be awarded as a second year Bursary to the candidate who obtains the highest marks in the Bursary Examination for the second year; and, failing candidates of the first and second years, it will similarly be awarded as a third year Bursary. When awarded under this Rule it is tenable

for one year only. (6.) Failing candidates qualified under Rule III. or Rule V., the Senatus may continue one of the Bursaries to its holder for a fourth year, provided he propose to continue his studies for a fourth year in some special subject. (7.) Each Bursar must be *bona fide* engaged in studying for a Degree in Arts or in Science, and must produce evidence at the end of each Winter Session that he has attended at least two classes in the Faculty of Arts, or in a Department of Science, and has made reasonable progress in his studies. (8.) Any breach of these regulations, or conduct unworthy of a scholar and a gentleman, will be punished by forfeiture of the Bursary. See Deed of Foundation, p. 497 of CALENDAR 1887-88, and Regulations at p. 544 of CALENDAR for 1890-91. *Bursars*—1897, W. G. Alexander; 1898, John Alexander; 1899, H. L. Mackenzie.

LXV. *Allan Bursaries*.—These Bursaries are available to Students attending classes in any of the Faculties of Arts, Medicine, or Law, in the University of Edinburgh, or to Students attending the classes in said University necessary for Degrees in Science; and are tenable for three years or for such part of that period as the Bursar shall remain a Student at the University. In nominating Candidates for presentation to the Bursaries, care will be given to prefer such as have been born in the parish of Kelso, provided they are qualified by their previous education for entering the University. Apply to P. Stormonth Darling, Esq., writer, Kelso.

LXVI. *James Fairbairn Bursary*, founded by Mrs Kidd of Palmyra, Garbarth, near Liverpool, in memory of James Fairbairn, late Governor of Jeriot's Hospital, is open to competition to first year Students, and is tenable for four years. The Bursar is required to attend the Classes necessary for Graduation in Arts, and to take the Degree at the end of the Course. The Bursary cannot be held along with any other Bursary or Scholarship. See Deed of Foundation, p. 501 of CALENDAR, 1887-88. *Bursar*—1897, D. G. Robertson.

LXVII. *Jardine of Thorlieshope Bursaries*.—Natives of the rural districts of Roxburghshire and Dumfriesshire (villages and towns of the population of 2000 and upwards being excluded), who have attended the Public or Board Schools in said counties, to be preferred. In the event of there being no first year Candidates, the Bursaries will be thrown open to Candidates of the second, third, or fourth year in succession, but will be tenable for one year only. The Bursars are required to attend the Classes necessary for Graduation in Arts, and to take the Degree at the end of the Course. The Bursaries cannot be held along with any other Bursary or Scholarship. See Deed of Foundation, p. 497 of CALENDAR, 1887-88. *Bursars*—1897, A. B. Lorimer, R. Nichol; 1898, J. P. Ross, C. L. Hunter (four years), W. G. Robertson (three years), Joseph Thomson (two years), 1899, R. W. Rae (one year).

LXVIII. *The Glenbuck Bursary* may be held by a Student in any of the four Scotch Universities—preferably that of Glasgow or of Edinburgh. Candidates only are eligible who have resided not less than five years in the Parish of Muirkirk, and who have received part of their education at any school therein, or alternatively and postponed thereto, those who have been resident in any one of

the Parishes of South Ayrshire for not less than five years, and who have received part of their education in any school in the same Parish. For further particulars, apply to Mr R. A. Leslie, Inspector, Muirkirk.

LXIX. *MacKenzie (Stornoway) Bursary*.—Candidates of the name of MacKenzie have a preference. The Examination is the same as for First Session Open Bursaries, and the Bursary will be awarded to the Candidate who stands highest, provided he has passed the Preliminary Examination in at least two subjects, one of which must be Latin, Greek, or Mathematics on the Higher Standard. Failing a preferential Candidate, the Bursary will be thrown open to competition as a first year Bursary in Arts. The Bursar is required to attend the Classes necessary for Graduation in Arts, and to take the Degree at the end of the course. For Regulations, *see* CALENDAR for 1895-96, p. 748. *Bursar*—1896, William Mackenzie.

LXX. This Bursary, tenable for four years, is by the will of the founder to be called the “Maclaurin Bursary,” and is restricted to Students of the Founder’s name of Maclaurin (or in Gaelic orthography “Maclalhrin”). The holder must pass the Preliminary Examination. It may be held in any of the Faculties. *See* Deed of Foundation, p. 544 of CALENDAR for 1890-91.

LXXI. Six Bursaries, each of the annual value of £25, and tenable for three years in the Faculty of Arts. They are open to Students who, having passed the Preliminary Examination, are entering on the first year of the Course in Arts, and are studying for the Ministry of the Church of Scotland. For conditions of tenure and subjects of examination, apply to the Rev. George T. Jamieson, The Manse, Portobello, Clerk to the Presbytery of Edinburgh. *Bursars*—1897, J. M. B. Duncan, W. P. Gillieson, Adam Mackay; 1898, David Scott; 1899, Neil Ross.

LXXII. *Bailie Cousin’s Bursary* is open for competition to Students entering the Faculty of Arts on a regular course for the Degree of M.A. The holder must regularly pass the departmental examinations appropriate to each year. The Bursary cannot be held along with any Fellowship, Scholarship, or Bursary of any Scottish University, or with any situation or appointment yielding an annual income of £30 or upwards. For Deed of Foundation *see* CALENDAR 1891-92, page 536. *Bursar*—1897, H. Nelson.

LXXIII. *Maule Bursaries*.—These Bursaries are for the education of poor and deserving Students. They may be held by Students prosecuting their studies in any of the Faculties. The Examination is the same as for University Open Bursaries. *See* Excerpt from Trust Deed, p. 543 of CALENDAR for 1891-92, and Deed of Foundation, in CALENDAR for 1894-95. *Bursars*—1897, J. B. Duncan; 1898, A. J. Ross, Andrew Renwick (five years); 1899, F. J. Chalmers.

LXXIV. *The Donald Fraser Bursary* is awarded for high merit in the University Class of Natural Philosophy, combined with proficiency in Laboratory Work. The Bursar is required to give assistance in the University Physical Laboratory, and to engage in research there. The Bursary cannot be held along with any other Fellowship, Scholarship, or Bursary in any Scottish University.

*see* Deed of Foundation, p. 545 of CALENDAR for 1891-92. *Bursars*—1900, Alice B. Lennie, M.A., and Jemima W. S. Meiklejohn—*equal*.

LXXV. These Bursaries are open both to men and women who have been educated in the High School of Dundee for at least one year immediately preceding the competition. The subjects of Examination, and the values attached to each subject, are the same as for the Open Bursaries in Arts, with the omission of Italian, and the addition of Chemistry (full marks, 50), as a subject of Examination. Candidates may select not more than five subjects, and the successful candidates may study for the Degrees of M.A., B.Sc., B.L., LL.B., or M.B., Ch.B.

The successful candidates must have passed the Preliminary Examination in Arts or Science, or its equivalent. For Regulations, *see* page 429 of CALENDAR for 1897-98. *Bursar*—1897, John M. Newton; 1898, *A. J. Laing*.

LXXVI. Tenable by a native of Parishes of Callander or Trossachs studying in any Scottish University with a view to taking the Degree of M.A. Applications to be made to R. Fulton, Esq., Schoolhouse, Callander, with certificate of birth, before 1st September.

## II.—PRIZES.

*See note under Bursaries, page 157.*

### I.—THE LORD RECTOR'S PRIZE.

The Lord Rectors since 1879, during their respective tenures of office, have offered a Prize of Twenty-five Guineas annually, for the best Essay on a Historical Subject.

1899. Not awarded.

### II.—EDINBURGH UNIVERSITY CLUB (OF LONDON) TRIENNIAL PRIZE.

A Prize of Twenty Guineas, open triennially, for competition in any of the Faculties by Graduates of not more than two years' standing, is offered by the Edinburgh University Club of London (James Taylor, M.A., M.D., Hon. Secretary, 49 Wellbeck Street, London, W.), for the best Essay on a subject prescribed by the Deans of the Faculties in the following rotation (*viz.*, Arts, Divinity, Law, Medicine, and Science), subject to the approval of the Senatus. The Prize will be open in 1901 in the Faculty of Divinity.

1898. *G. C. Rankin, M.A.*

### III.—BRUCE OF GRANGEHILL AND FALKLAND'S PRIZE IN THE CLASSES OF LOGIC AND METAPHYSICS.

This Prize of £20 (with a supplementary Prize of £10 for the Junior Division of the Class) is awarded to the most distinguished student in



this class, "on such conditions and competition as the Professor may direct, and on his decision," for excellence in the study of Logic and Metaphysics. It was founded in 1865, by Mrs Tyndall Bruce of Grangehill and Falkland, in commemoration of John Bruce, Professor of Logic and Metaphysics in the University, 1774-1786.

1900. *Alexander Mackie, M.A.*

#### IV.—GRAY PRIZES.

The Gray Prize Essay Fund was instituted in 1851, in terms of the Will of Simon Gray, Esq., of Mornington Crescent, London. The Trustees offer annually for competition, three prizes of £15 for the first, £10 for the second, and £5 for the third best Essay on a subject to be announced on the Board at the University gate. The competition is open to students of not more than three years' standing at the commencement of the Winter Session. For further information apply to the Rev. John Blackwood Munro, Duns, Secretary to the Trustees.

1899. Names of Prizemen not communicated.

#### V.—SCOTT AND DUNBAR PRIZE.

This Prize, of the value of about £20, was founded in 1872 by the Rev. Hew Scott, D.D., of Anstruther Wester, for encouraging the study of the Greek Language in the University of Edinburgh. It is awarded annually to "the most deserving and learned student in the Greek Classes," after such Examination as may be directed by the Principal and the Professors of Divinity, Greek, and Humanity. See Deed of Foundation at p. 332 of CALENDAR, 1873-74.

1900. *F. H. T. Gray and W. D. R. Prentice, M.A.*

#### VI.—THE COUSIN PRIZE.

This Prize, founded in connection with the Class of Fine Art by the late David Cousin, Esq., is of the annual value of about £15, 4s., and is awarded at the close of each session for proficiency in Class Essays set from time to time by the Professor. See Excerpt from Mr Cousin's will in CALENDAR, 1880-81, p. 380.

1900. *Alexander MacRae.*

#### VII.—KELLAND MEMORIAL PRIZE.

The Committee for promoting a Memorial to the late Professor Kelland has handed over to the University the sum of £147, 10s., for the purpose of founding a Prize to be called the "Kelland Memorial Prize," to be awarded annually to the most distinguished Student in Pure Geometry in the Junior Mathematics Class. The value of the Prize is about £4, 12s.

1899. *G. S. Duncan.*



## III.—SCHOLARSHIPS.

NOTE—*From the sums given below Income Tax will be deducted, which may be recovered by the Scholars; and in some cases a deduction will be made for the expenses of administration. The accuracy of the figures is not guaranteed.*

## I.—PITT CLUB CLASSICAL SCHOLARSHIP.

The Pitt Club Scholarship of the annual value of about £58, 10s., tenable for four years. By ordinance No. 17 of the Scottish Universities' Commissioners of 1858 it is open for competition to all who have passed regularly through the Course in Arts in the University, and have been admitted to the Degree of M.A. in Edinburgh, at any time within four years before the competition takes place. The subjects embraced in the examination are CLASSICS and ENGLISH LITERATURE. The next competition may take place in April 1901.

1897. *A. Croom Paterson, M.A.*

## II.—MACKENZIE CLASSICAL SCHOLARSHIP.

This Scholarship was founded in 1862, by James Mackenzie, Esq., W.S. It is of the annual value of about £109, tenable for four years, and the award carries with it free admission to the Edinburgh Philosophical Institution during the years of tenure. By ordinance No. 90 of the Scottish Universities' Commissioners of 1858, it is open for competition to all Graduates in Arts in the University of Edinburgh of not more than three years' standing at the time of the competition. Candidates are examined in CLASSICAL LITERATURE and in ENGLISH LITERATURE, and the Examination is conducted by three or more Examiners selected by the Senatus from their own body. It cannot be held along with any other Scholarship, Fellowship, or Bursary, of any Scottish University. The Examinations include—1. Translations from Latin and Greek authors; 2. Composition in Latin and Greek Prose; 3. Latin and Greek Literature, and History; 4. English Essay-Writing; 5. History of English Literature. The next competition may take place in April 1901.

1897. *William Wallace M'Kechnie, M.A.*

## III.—SIR DAVID BAXTER MATHEMATICAL SCHOLARSHIP.

This Scholarship, founded by Sir David Baxter, Bart., of Kilmaron, is of the annual value of about £63, 9s. 2d., and is tenable for four years. By the terms of the Deed of Foundation (given in the CALENDAR for 1864-65, p. 171) it is awarded for proficiency in the department of Mathematics, particularly in that branch of it which includes mechanical and physical science. Competitors must be Graduates in Arts of the University, of not more than four years' standing at

the time of the competition, who have taken Honours in the department of Mathematics and Natural Philosophy. The next competition may take place in April 1904.

1900. *J. Chalmers Leighton, M.A., B.Sc.*

#### IV.—SIR DAVID BAXTER PHILOSOPHICAL SCHOLARSHIP.

This Scholarship, also founded by Sir David Baxter, Bart., of Kilmaron, is of the annual value of about £63. 9s. 4d., and is tenable for four years. By the terms of the Deed of Foundation (given in the CALENDAR for 1864-65, p. 171), it is awarded for proficiency in the Department of Mental Philosophy. Competitors must be Graduates in Arts of the University, of not more than four years' standing at the time of the competition, who have taken Honours in the department of Mental Philosophy. The subjects of examination are Logic, Metaphysics, and Moral Philosophy. The next competition may take place in April 1903.

1899. { *Alexander Mair, M.A.* } Equal.  
          { *G. R. T. Ross, M.A.* }

#### V.-VII.—JOHN EDWARD BAXTER SCHOLARSHIPS.

These Scholarships were founded in 1876, and are three in number, each of the annual value of about £83, and tenable for three years. One is in the Department of Classical Literature, another in Mental Philosophy, and the third in Mathematics and Natural Philosophy. They are open for competition to all Masters of Arts of the University of not more than three years' standing at the time of the competition. The Scholarship in Mental Philosophy may be open in April 1903, and those in *Mathematics* and *Classics* may be open in April 1902. See Deed of Foundation at p. 361 of CALENDAR for 1877-78.

1899. *J. S. Ross, M.A. (Cl.).*

*J. T. Young, M.A., B.Sc. (Math.).*

1900. *John M. Shaw, M.A. (Phil.).*

#### VIII.—DRUMMOND MATHEMATICAL SCHOLARSHIP.

This Scholarship was founded in 1865 by Miss Elizabeth Drummond, in memory of her brother, Captain Drummond, R.E., Under Secretary for Ireland. It is of the annual value of about £92. 7s. 6d., and is tenable for three years. By the Deed of Foundation (given at p. 198 of CALENDAR for 1865-66), it is open to Graduates in Arts of not more than three years' standing, who have graduated with Honours in the Department of Mathematics. It cannot be held with any other Bursary or Scholarship, and the holder is recommended to travel for the purpose of inspecting, in this and other countries, remarkable engineering and architectural structures, to extend his knowledge of the practical application of Mathematical principles: and, if required by the Senatus Academicus, to deliver reports on the principal structures

examined by him, and the Mathematical principles exemplified thereby; which reports the Senatus may cause to be publicly read in the University or elsewhere in Edinburgh. The next competition may take place in April 1903.

1900. *Alexander Brown, M.A., B.Sc.*

### IX.—BRUCE OF GRANGEHILL AND FALKLAND'S CLASSICAL SCHOLARSHIP.

This Scholarship, founded in 1865 by Mrs Tyndall Bruce of Falkland, is of the annual value of about £100, and is tenable for three years, during two of which the studies of the Scholar must be prosecuted in the University of Edinburgh, but in the third year they may be prosecuted in an English or Foreign University. By the terms of the Deed of Foundation (given at p. 205 of the CALENDAR for 1866-67), this and the two following Scholarships held by Students who have passed their Examinations for the Degree of Master of Arts with Honours, have hitherto been conferred upon the most distinguished in that one of the Honours Departments which is appropriated for each year. The Scholarship cannot be conferred upon any one whose age exceeds twenty-three years, and it cannot be held with any other Scholarship or Fellowship of a Scottish University, or with any situation yielding an income of £100 per annum. In the event of the Scholarship becoming vacant during the period of tenure, through resignation or otherwise, of the Scholar, then the sum falling in shall be bestowed by the Senatus for the remaining period of tenure on a Student attending the Divinity Classes who shall be reported by the Faculty of Theology to be a meritorious Student and deserving of the Scholarship. The next award may be made in April 1902.

1899. *C. G. Mackay, M.A.*

### X.—BRUCE OF GRANGEHILL AND FALKLAND'S SCHOLARSHIP IN MENTAL PHILOSOPHY.

This Scholarship, founded in 1865 by Mrs Tyndall Bruce of Falkland, is of the annual value of about £100, and is tenable for the same period, and under the same conditions as the preceding. The subjects of examination are Logic and Psychology, Metaphysics, Moral Philosophy, and History of Philosophy. The next award may be made in April 1901.

1898. *J. Adam Gray, M.A.*

### XI.—BRUCE OF GRANGEHILL AND FALKLAND'S MATHEMATICAL SCHOLARSHIP.

This Scholarship, founded in 1865 by Mrs Tyndall Bruce of Falkland, is of the annual value of about £100, and is tenable for the same period, and under the same conditions as the preceding. The subjects of examina-

tion are Mathematics and Natural Philosophy. The next award may be made in April 1902.

1899. *R. D. Bell, M.A.*

## XII.—GRAY SCHOLARSHIP.

This Scholarship, founded by Mr Gray of Baad Park in 1864, is of the annual value of about £86, and tenable for two years. It is awarded for distinction in one of the Honours groups of subjects for the Degree of Master of Arts, or in one of the groups of subjects for the Final Examination for the Degree of Bachelor of Science, or in the Historical and Philosophical subjects of the examination for the Degree of Bachelor of Laws, or to Students in the Faculty of Divinity for distinction in the Final Examination for the Degree of Bachelor of Divinity. It has been resolved that the Scholarship shall be offered in rotation in the Faculties of Arts, Science, Law, and Divinity. When it falls to the Faculty of Arts it will be offered in rotation in the order of the groups of Honours subjects in the Arts regulations, and when it falls to the Faculty of Science, it will be offered in one of the groups of the Second Science Examination. When not awarded in the Faculty in which it is offered, it will then be offered to the other Faculties in rotation. The holder of the Scholarship is required, as a condition of tenure, to satisfy the Senatus Academicus that he is pursuing special higher studies, or that he is engaged in original research, either in the University of Edinburgh or in another University approved by the University Court, and he must also satisfy the Senatus Academicus of the importance of the work he proposes to undertake, and of his qualifications for such work. The Scholarship will be awarded in 1901 in the Faculty of Law.

1899. *John William Eastham, B.Sc.*

## XIII.—GILCHRIST SCHOLARSHIPS.

These Scholarships were founded in 1865 by the Trustees of the late Dr Gilchrist; they are three in number, each of the annual value of £100, and are open to natives of India who have passed competitive examinations at the Presidential Colleges of India. They are attached to the Medical, Law, and Literary Classes in the University.

## XIV.—XV.—FETTES EXHIBITIONS.

These Exhibitions are each of the annual value of £60, and are tenable for four years. They are open annually for competition, one among the Foundationers alone, and the other among the Foundationers and such other pupils as have attended Fettes College regularly for not less than five years.

## XVI.—XVII.—RHIND SCHOLARSHIPS.

These Scholarships were, in accordance with the will of the late A. H. Rhind, Esq., of Sibster, founded by his trustees on the reversion of his estate. They are two in number, one in the Department of

Classical Literature, the other in that of Philosophy, are each of the annual value of about £81, are tenable for not less than two years, or more than three years, and are open to Undergraduates and to Graduates of not more than three years' standing at the time of the competition. Competitors must have attended classes in this University for not less than three *winter* sessions or their equivalent, attendance being defined to mean that the competitors must present Certificates of having attended at least four classes during the period aforesaid, and of having duly performed the work of the classes. The successful Candidates may be required to undertake duties connected with the teaching of the University, or otherwise assist in some department of its operations. *See* Deed of Foundation at p. 323 of CALENDAR for 1874-75. The next competition for the Classical Scholarship may take place in April 1901, and the next competition for the Philosophical Scholarship may take place in April 1902.

1898. *William Rennie* (Cl.).—*Hon. ment.*, A. B. Keith, M.A., and W. D. Ross, M.A.

1899. *A. S. Ballantyne*, M.A. (Phil.).

#### XVIII.—THE CHARLES MACLAREN SCHOLARSHIP.

This Scholarship, founded in 1871 by the Trustees of Mrs Maclaren, in memory of Charles Maclaren, Esq., the eminent geologist, is of the annual value of about £112, and is tenable for three years. It is for the encouragement of the study of Mathematics and Natural Philosophy, and is open to all graduates in Arts of not more than three years' standing at the time of the Competition (and under 30 years of age) who shall have taken honours in Mathematics. The successful competitors are to spend a few months in travelling and in examining remarkable Engineering and Architectural Structures, and to report to the Senatus, which report the Senatus may cause to be publicly read in the University. The Deed of Foundation is given at p. 324 of CALENDAR for 1873-74. The next competition may be in April 1902.

1899. *M. C. McAlpin*, M.A.

#### XIX.—NEIL ARNOTT SCHOLARSHIP FOR EXPERIMENTAL PHYSICS.

This Scholarship, value about £33, was founded in 1874, and is awarded annually to the most distinguished Student in the Physical Laboratory of the University.

The recipient must, during the ensuing Summer and Winter Sessions, assist the Professor of Natural Philosophy in the Laboratory. Failing a Student deemed by the Professor worthy of the Scholarship, it may be given to the Candidate for a Degree in Arts who has undergone the Examination in Natural Philosophy with most distinction. *See* Deed of Foundation, at p. 340 of CALENDAR for 1875-76.

1900. *R. C. Wallace*.



## XX.-XXII.—FERGUSON SCHOLARSHIPS.

The examination of Candidates for Three of these Scholarships, each of the annual value of £80, and tenable for two years, will be held in Glasgow, on Tuesday, 25th September 1900, and following day. One of the Scholarships to be awarded for the greatest proficiency in Classics; one for the greatest proficiency in Mathematics, including Natural Philosophy; and one for the greatest proficiency in Mental Philosophy, including Logic, Psychology, Metaphysics, and Moral Philosophy.

The Competition is open to "all persons who have passed the Examinations required for the Degree of Master of Arts in one of the Universities of Scotland (whether taking the Degree at the same time or not) provided that at the time of the Competition not more than six years have elapsed since the date of their first matriculation after having passed the Preliminary Examination, and who have not already gained one of these Scholarships." Candidates are required to enter their names at the Office of the Ferguson Bequest Fund, 94 Bath Street, Glasgow, not later than 1st September 1900.

For further information apply at the Office of The Ferguson Bequest Fund, 94 Bath Street, Glasgow.

## SCHOLARS, 1899.

*Classical*—Robert Daniels Bell, M.A. of Glasgow University.

*Mathematical*—Alexander Brown, M.A. of Edinburgh University.

*Philosophical*—George Claus Rankin, M.A. of Edinburgh University.

## XXIII.-XXXII. VANS DUNLOP SCHOLARSHIPS.

TEN VANS DUNLOP SCHOLARSHIPS, each of the annual value of about £100, and tenable for three years, are, by the Deed of Foundation, appropriated to the following subjects:—1. English Literature and Poetry; 2. Classical Learning—Latin and Greek; 3. Commercial and Political Economy and Mercantile Law; 4. Logic and Metaphysics; 5. Natural Philosophy; 6. Mathematics; 7. Hebrew and Oriental (Semitic) Languages; 8. History; 9. Moral Philosophy; 10. Sanskrit and Comparative Philology. In terms of the Trust-Disposition (which is given at p. 350 of CALENDAR for 1880-81), the Scholarships are given only for "distinguished proficiency" in the various subjects of competition, as determined by the Examiners and the Senatus Academicus.

The following are the General Regulations for the Examinations:—

Competitors for these Scholarships must have regularly attended at least one full Course or two Half-Courses in the University of Edinburgh during each Academic year in which they claim to have been Matriculated Students, and no Candidate is eligible who has discontinued attendance at the University of Edinburgh for more than one year. The years of Academic study count from the first year in which a Candidate has attended one of the classes qualifying for the degree of M.A.



Each Scholarship is tenable on condition that the Scholar submits annually to the University evidence that he is prosecuting his studies, or his professional work, in a manner satisfactory to the Senatus. The evidence may consist of—(1) Certificates of attendance on Lectures or Laboratories in this or some other University; or (2) Certificate of having acted as Assistant to a Professor in this or some other University; or (3) A written Report of work done by the Scholar during the year, together with a Thesis composed by himself on a subject connected with that work.

Not more than one of these Scholarships can be held by the same person, and Vans Dunlop Scholars cannot hold, along with their Scholarship, any other Fellowship, Scholarship, or Bursary in the University of Edinburgh.

Candidates for the Vans Dunlop Scholarships must, on entering for the Examinations, produce evidence that they have fulfilled the conditions of eligibility.

Candidates, if not already matriculated, are required to pay the Matriculation Fee for the year in which the competition takes place.

The names of Candidates highly distinguished in the Vans Dunlop Scholarship examinations may be published.

#### XXIII:—ENGLISH LITERATURE AND POETRY.

Candidates are subjected to an Examination testing—(1.) Knowledge of the History of English Literature generally, and more particularly through a prescribed period; (2.) Acquaintance with certain books, chiefly of English Poetry, prescribed for special reading; (3.) Ability in English Composition, in the form of an Essay, written in the Examination Room, on some subject of literary criticism.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed five academic years either in this University alone or in this and any other University or Universities together; and who have given regular attendance in the Class of Rhetoric and English Literature, and in at least one other class on English Language or Literature. The next Competition may take place in March 1903.

The Professor of Rhetoric and English Literature, and an Examiner appointed by the Senatus, are the Examiners.

1900. *John Purves.*

#### XXIV.—CLASSICAL LEARNING—LATIN AND GREEK.

1. *Latin.*—The Examination will test:—

(a.) Knowledge of Latin books and special subjects previously prescribed.

(*b.*) Power of Latin Composition, and of translating from Latin authors not previously prescribed.

(*c.*) Knowledge of Latin History and Literature.

2. *Greek*.—(*a.*) Knowledge of Greek books and special subjects previously prescribed.

(*b.*) Power of Greek Composition, and of translating from Greek authors not prescribed.

(*c.*) Knowledge of Greek History and Literature.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed four academic years either in this University alone or in this and any other University or Universities together; and who have given regular attendance in the Latin and Greek Classes necessary for graduation in Arts.

The next Competition will take place in October 1902.

The Professors of Humanity and Greek are the Examiners.

1899. *James Crerar, M.A.*

## XXV.—COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

The Examination will test knowledge of the subjects assigned in the Deed of Endowment to the Chair of Commercial and Political Economy and Mercantile Law. It will include the subjects embraced in the Lectures, and also in books prescribed from time to time by the Appropriate Board of Studies.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed five academic years either in this University alone or in this and any other University or Universities together; and who have regularly attended the Class of Commercial and Political Economy and Mercantile Law. The next Competition will take place in October 1901.

The Professor of Political Economy and an Examiner appointed by the Senatus are the Examiners.

1898. *D. T. Boyd.* } equal.  
*T. Fraser Scott.*

## XXVI.—LOGIC AND METAPHYSICS.

The Examination will test knowledge of (*a.*) Logic, (*b.*) Psychology, (*c.*) Metaphysics and the History of Philosophy. It will include the subjects embraced in the Lectures on each of these branches; also prescribed Reading and Studies of special subjects.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed four academic years either in this University alone or in this and any other University or Universities together; and who

have completed attendance at the Ordinary Class of Logic and Metaphysics. The next Competition will take place in October 1900.

The Professor of Logic and Metaphysics and the Professor of Moral Philosophy are the Examiners.

1897. *George Claus Rankin, M.A.*

XXVII.—NATURAL PHILOSOPHY.

The Examination will test the knowledge of the Candidates in Experimental Physics and Applied Mathematics.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed six academic years either in this University alone, or in this and any other University or Universities together; and who have attended at least two of the classes of Natural Philosophy, of which the Ordinary Course must be one. The next Examination will take place in March 1901.

The Professor of Natural Philosophy and an Examiner appointed by the Senatus are the Examiners.

1898. *J. W. Low, M.A.*

XXVIII.—MATHEMATICS.

The Examination will test Candidates in pure mathematical subjects in the Honours Department for the Degree of Master of Arts, and in special subjects to be prescribed by the Examiners from time to time.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed six academic years either in this University alone or in this and any other University or Universities together; and who have attended at least two of the Mathematical Classes, one of these being an Honours Class. The next Examination will take place in March 1901.

The Professor of Mathematics and an Examiner appointed by the Senatus are the Examiners.

1898. *Alexander Brown, M.A., B.Sc.*

XXIX.—HEBREW AND ORIENTAL (SEMITIC) LANGUAGES.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed six academic years either in this University alone or in this and any other University or Universities together; and who have attended at least two courses under the Professor of Hebrew and Oriental Languages.

Candidates will be examined in Hebrew, Syriac, and Arabic.

The Examiners are the Professor of Hebrew and Oriental Languages, and an Examiner appointed by the Senatus. The next Competition will take place at the end of March 1902.

1899. *Richard Bell, M.A.*

## XXX.—HISTORY.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed five academic years either in this University alone, or in this and any other University or Universities together; and who have attended two or more courses of Professorial Lectures on History within the University.

The Examiners are the Professors of History, and such others as may be appointed by the Senatus from time to time. The next Competition will take place in October 1901.

1898. *John M'Farlane, M.A.*

*Prox. access., Alex. B. Robb, M.A.*

## XXXI.—MORAL PHILOSOPHY.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed four academic years either in this University alone or in this and any other University or Universities together; and who have completed attendance at the Ordinary Class of Moral Philosophy.

The Professor of Moral Philosophy and the Professor of Logic and Metaphysics are the Examiners. The next Competition will take place in October 1901.

1898. *D. H. Macgregor, M.A.*

1900. *G. ClausRankin, M.A.* (lapsed Scholarship for 1½ year).

## XXXII.—SANSKRIT AND COMPARATIVE PHILOLOGY.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed six academic years either in this University alone or in this and any other University or Universities together; and who have attended at least two courses under the Professor of Sanskrit and Comparative Philology.

The Examiners are the Professor of Sanskrit and Comparative Philology, and another Examiner to be appointed by the Senatus. The next Competition will take place in March 1901.

1898. *S. G. Campbell.*

## XXXIII.—SKIRVING SCHOLARSHIP FOR MORAL PHILOSOPHY.

This Scholarship is to be founded (after the death of an annuitant) in accordance with the Will of the late David Skirving, of No. 13 Westbourne Park, London. It will be of the annual value of about £50, and tenable for three years. *See* Deed of Foundation at p. 350 of CALENDAR for 1876-77.

XXXIV.—LANG SCHOLARSHIPS.

This is a Bequest by the late John Lang, Esq. of Warren Park, Ayrshire, with the object of founding four Scholarships, to be called the

Semitic and Indian Languages ; (5) English and Modern Languages ; (6) History. The Examination in 1901 will be in Semitic and Indian languages. See Deed of Foundation in CALENDAR for 1897-98, page 419.

1900.

## XXX.—HISTORY.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed five academic years either in this University alone or

*Insertion, to face page 183.*

## XXXVI.—GEORGE SCOTT (TRAVELLING) SCHOLARSHIP.

This Scholarship of about £32, 10s., is awarded annually (a previous holder not being ineligible for re-election), for the purpose of assisting Graduates in Arts of the University, of not more than three years' standing at the date of their election as Scholars (in the selection of whom a preference shall be given to natives of Perthshire, should any such apply) to travel for purposes of Study or Research. Applicants are required to state:—(1) The purpose for which they desire to use the Scholarship; and (2) What other means they have towards the object in view. The award will be based—(1) On the importance of the work to be undertaken; (2) the sufficiency of the means proposed to be applied to the work; (3) the capability of the applicant for the work he proposes to undertake. The holders are required in all cases to satisfy the Senatus, by half-yearly reports, that they are carrying out the work undertaken; and must present a final report or deliver a short Course of Lectures on their work when completed. The appointment is made by the Senatus on a report by the Faculty of Arts on the merits of the applicants. Preference will be given to Candidates desiring to undertake work in the following groups of subjects, under the following scheme of rotation, provided always that a suitable Candidate presents himself:—(1) Classical Languages and Classical Archaeology; (2) Mental Philosophy; (3) Mathematical and Physical Science; (4) Semitic and Indian Languages; (5) English and Modern Languages; (6) History. In 1901 the first preference will be given to a Candidate in the Group of Semitic and Indian Languages. See Deed of Foundation in CALENDAR for 1897-98, page 419.

This Scholarship is to be founded (after the death of an annuitant) in accordance with the Will of the late David Skirving, of No. 13 Westbourne Park, London. It will be of the annual value of about £50, and tenable for three years. See Deed of Foundation at p. 350 of CALENDAR for 1876-77.



## XXXIV.—LANG SCHOLARSHIPS.

This is a Bequest by the late John Lang, Esq. of Warren Park, Ayrshire, with the object of founding four Scholarships, to be called the "Lang Scholarships," one in Natural Philosophy, one in Mathematics, one in Chemistry, and one in Botany. The capital sum will be payable on the death of the survivor of two liferenters.

## XXXV.—MACKAY SMITH SCHOLARSHIP IN NATURAL PHILOSOPHY.

This Scholarship is of the annual value of £25, and tenable for two years, is open for competition to Students who have attended the Class of Natural Philosophy in this University. The successful candidate is required to attend the class of Natural Philosophy, or to prosecute the study of Natural Philosophy, during at least one year of his tenure of the Scholarship, in such a way as the Senatus may direct or approve. The next award may be made in April 1902.

1900. *William Gentle.*

Lapsed Scholarship for one year, *D. G. Mitchell, B.Sc.*

## XXXVI.—GEORGE SCOTT SCHOLARSHIP.

This Scholarship of about £32, 10s., is awarded annually (a previous holder not being ineligible for re-election), for the purpose of assisting Graduates in Arts of the University, of not more than three years' standing at the date of their election as Scholars, to travel for purposes of Study or Research. Applicants are required to state :—(1) The purpose for which they desire to use the Scholarship ; and (2) What other means they have towards the object in view. The award will be based—(1) On the importance of the work to be undertaken ; (2) the sufficiency of the means proposed to be applied to the work ; (3) the capability of the applicant for the work he proposes to undertake. The holders are required in all cases to satisfy the Senatus, by half-yearly reports, that they are carrying out the work undertaken ; and must present a final report or deliver a short Course of Lectures on their work when completed. The appointment is made by the Senatus on a report by the Faculty of Arts on the merits of the applicants. Preference will be given to Candidates desiring to undertake work in the following groups of subjects, under the following scheme of rotation, provided always that a suitable Candidate presents himself :—(1) Classical Languages and Classical Archaeology ; (2) Mental Philosophy ; (3) Mathematical and Physical Science ; (4) Semitic and Indian Languages ; (5) English and Modern Languages ; (6) History. The Examination in 1901 will be in Semitic and Indian languages. See Deed of Foundation in CALENDAR for 1897-98, page 419.

1900.

## XXXVII.—MACPHERSON SCHOLARSHIP.

This Scholarship is awarded annually by the Senatus Academicus to a student who has, within six years of the date of the competition, completed the examination necessary for the degree of Master of Arts in the University of Edinburgh, with or without honours, who has included in his examination the subjects of Latin and Greek, and who has attended the class of Celtic and attained distinction in that subject. The scholar must study Celtic in a University or other place offering special facilities for Celtic study, subject to the approval of the Senatus Academicus. The Scholarship is of the annual value of about £84, 7s. 4d., and is tenable for one year. Before 15th February next after his appointment the scholar must submit to the Senatus Academicus a report of the work he has done, and of such further studies in Celtic as he proposes to prosecute, and the Senatus Academicus may, if they think fit, appoint him to the said Scholarship for a further period of one year.

1900. *Donald Lamont, M.A.* (reappointed for one year).

## XXXVIII.—THE NICHOL FOUNDATION.

The free yearly interest or income derivable from this foundation, amounting to about £50, shall be paid to a deserving Student, who shall regularly attend and devote himself as assistant in the Physical Laboratory, and who shall be bound to give his whole time in promoting the study of Natural Philosophy in connection therewith. It is tenable for one year, but on the recommendation of the Professor of Natural Philosophy it may be continued for a second year or longer. It cannot be held along with any Bursary or Scholarship. See Deed of Foundation in CALENDAR for 1897-98, page 419.

## XXXIX., XL.—RITCHIE SCHOLARSHIPS FOR THE STUDY OF ORIENTAL LANGUAGES.

These Scholarships, endowed by the late James Ritchie, formerly of Edinburgh, are for Candidates for the Civil Service of India. They are open annually, are each of the annual value of about £40, and tenable in the first instance for one year. They are not tenable along with any other Scholarship or Bursary without the express approval of the Senatus. Candidates must be eighteen years of age at the date of application (1st October), and they must be still eligible to compete for the Civil Service in the following August. The Scholarships will be awarded without examination, on the basis of work already done at Edinburgh University. Candidates will be expected to show evidence of some such distinctions as the following:—Second Class Honours (at least) in some department of the Faculty of Arts; a degree in Science; or Class Certificates of Merit (First Class) in three or four different subjects. The holders will be required (1) to declare their intention of competing for the Civil Service; (2) to submit from

time to time evidence of industry and progress in the subjects which they intend to offer in the Civil Service Competition. The holder of a Scholarship may offer himself again as a Candidate. He will not be debarred from entering his name for the Home as well as the India Service; and in the event of his being high enough in the list to have the option of a Home appointment, he will be free so to choose.

1899. *Bernhard H. Richardson, M.A.*

*James M. Dunnett, M.A.*

#### XLI.-XLII.—GEORGE HERIOT'S TRAVELLING SCHOLARSHIPS FOR TEACHERS OF MODERN LANGUAGES (MEN OR WOMEN).

The Governors of the Trust may offer in 1901 for competition two Scholarships—one for French and one for German—of £100 each, tenable for one year. The Scholarships will be awarded to Graduates in the Faculty of Arts of the University of Edinburgh, of not more than four years' standing at the date of their election as Scholars, who have passed the Degree Examination (Honours or Ordinary) in one of the Modern Languages either before or after graduation, and have attended an Honours Class in the Language for which the Scholarship is awarded, and who have obtained the Schoolmaster's Diploma in the University of Edinburgh, and who are, or who intend to become, Teachers of Modern Languages. For further particulars apply to David Lewis, Esq., Treasurer, George Heriot's Trust, 20 York Place, Edinburgh, from whom schedules of application may be obtained, which must be lodged with him not later than 15th March.

1900. *Mary Tweedie, M.A. (French).*

*Prox. access., Bessie H. A. Robson, M.A.*

*Bessie H. A. Robson, M.A. (German).*

#### IV.—FELLOWSHIPS.

*See note under Bursaries, p. 157.*

##### I.—GUTHRIE FELLOWSHIP IN CLASSICAL LITERATURE.

This fellowship, founded in 1866 by James Guthrie, Esq., London, is of the annual value of about £85, 15s., and is tenable for four years. By the terms of the Deed of Foundation (given at p. 210 of the CALENDAR for 1866-67) it is for proficiency in Classical Literature, and is open to Graduates in Arts of the University who have taken their Degree since the last competition. Students who have passed all their examinations for a Degree since the last competition, but have deferred graduating, are also eligible. It cannot be held along with any other Fellowship or Scholarship in a Scottish University. The next Competition may take place in April 1903.

1899. *A. B. Keith, M.A.,*

## II.—THE HAMILTON PHILOSOPHICAL FELLOWSHIP.

This Fellowship, founded in 1866 by the Subscribers to the fund for a Memorial to the late Professor Sir William Hamilton, and by the Association for the better endowment of the University, is of the annual value of about £85, 5s., and is tenable for three years. By the Deed of Foundation (given at p. 213 of CALENDAR for 1866-67), the Fellowship is open to all Graduates in Arts of the University of Edinburgh of not more than three years' standing at the time of the competition. It cannot be held along with any other Scholarship or Fellowship in any Scottish University. The subjects of examination are Logic, Metaphysics, Moral Philosophy, and the History of Philosophy. The next Competition may take place in April 1903.

1900. *D. H. Macgregor, M.A.*

## III.—SHAW FELLOWSHIP IN MENTAL PHILOSOPHY.

This Fellowship, founded in 1867 by Contributors to a Memorial to Sir James Shaw, Bart., a native of Ayrshire, afterwards Lord Mayor of, and M.P. for, London, and by the Association for the better endowment of the University, for the encouragement of the study of Logic, Psychology, Metaphysics, Moral Philosophy, and the History of Philosophy, is awarded after competitive examination on these subjects. It is open to Graduates in Arts of any of the four Scottish Universities, of not more than five years' standing at the time of the competition, is of the annual value of about £139, 11s. 2d., and is tenable for five years. It cannot be held along with any other Fellowship, Scholarship, or Bursary in any Scottish University, and it is not open to the competition of any person who already holds a Fellowship in any English or Irish University, though the holder of the Shaw Fellowship will not be precluded from afterwards obtaining an English or Irish Fellowship. The holder is required during the fourth or fifth year of his tenure of the Fellowship to deliver in this University a Course of four Lectures on any of the subjects for the encouragement of the study of which the Fellowship was founded. The next Competition for the Fellowship may take place in December 1904 at the beginning of the Christmas holidays. (Deed of Foundation, p. 237 of CALENDAR for 1868-69.)

1899. *J. B. Baillie, M.A. (Edin.).*

*Prox. access., A. M. Mackay, M.A. (Aber.).*

## IV.-VIII.—GEORGE HERIOT RESEARCH FELLOWSHIPS.

Applications for Fellowships or for renewal of Fellowships should be made annually, not later than 1st June. For further particulars apply to the Governors of George Heriot's Trust, 20 York Place, Edinburgh.

1899. *James P. Hill, B.Sc.*  
*Thomas J. Jehu, B.Sc., M.B., C.M.*  
*James Oliver, M.A.*  
*Alexander Darrock, M.A.*  
*Archibald Boon, B.A., B.Sc.*

## ENDOWMENTS FOR RESEARCH.

### I.—WILLIAM DICKSON TRAVELLING FUND.

This Fund (the interest of which amounts to about £85 per annum) has been established for the purpose of assisting Graduates of any Faculty, of not more than Three Years' standing, to travel, for a shorter or longer period, for purposes of study or research. Grants from the Fund may be made to holders of Scholarships, Bursaries, &c. Applicants are required to state—“(1) The purpose for which the Applicants desire to get a Grant for travelling; (2) the total amount of expenditure thought necessary; (3) the other means they have towards meeting this expenditure; and (4) the amount of the Grant required from the Fund.” The award of a grant to be based on—“(1) The importance of the work proposed to be undertaken; (2) the sufficiency of the means proposed to be applied to the work; (3) the capability of the Applicants for the work they respectively propose to undertake.” “Holders of Grants in all cases to satisfy the Senatus by periodical reports that they are carrying out satisfactorily the work or investigation undertaken; and to present a final report, or to deliver a course of public University Lectures on their work when completed.” Applications must be lodged with the *Secretary of Senatus* on or before 15th March annually. For Deed of Endowment, see p. 514 of CALENDAR, 1889-90.

### II.—EARL OF MORAY ENDOWMENT FOR THE PROMOTION OF ORIGINAL RESEARCH.

1. The available income (which amounts to about £570 per annum) is, in the first place, applied to the payment of the actual expenses of the prosecution of Original Research, present or contemplated, intended and likely to increase existing human knowledge, in any of its departments.

In such expenses would be included apparatus, special accommodation, specimens, chemical substances, books, journals, pamphlets, reproductions of manuscripts, &c., and actual maintenance and travelling expenses, in so far as they are shown to be necessary for the purposes of research, provided that it shall be permissible to furnish out of the income such specific additions to the Library as may be deemed necessary to stimulate and aid research.

All apparatus, specimens, books, journals, pamphlets, &c., and all unused chemical substances shall, at the termination of the research, be returned, or otherwise accounted for to the University.



2. Any surplus income after meeting the claims defined in 1, above, may be expended in (a) the printing and publishing of noteworthy results, including illustrations for papers containing such results; and (b) the payment, after careful consideration of all the circumstances, of such grants of money as may be necessary to enable applicants to enter upon or carry on the work of research, or to encourage the prosecution of research.

3. All graduates and other members of the University, "or other persons who have given satisfactory proof of general education and of fitness to engage in some special study or research," are entitled to apply for assistance.

4. In so far as the subject of the research admits, the investigation shall be conducted in the buildings of the University.

5. All applications for participation in the Fund must be submitted to the appropriate Faculty. See Regulations in CALENDAR for 1897-98, page 428.

#### THE SWINEY LECTURESHIP ON GEOLOGY.

This Lectureship is in the patronage of the Trustees of the British Museum, is of the annual value of about £144, and is open to Graduates in any of the Faculties in this University who have obtained their Degrees after examination. For further particulars *see* under Faculty of Science, page 276.

#### FELLOWSHIPS, SCHOLARSHIPS, UNIVERSITY PRIZES, AND BURSARIES, OPEN DURING THE ACADEMIC YEAR 1900-1901.

Candidates for the Fellowships and Scholarships open in Spring must give their names and addresses to the Clerk of Senatus, University, Edinburgh, *on or before* 15th March annually.<sup>1</sup> The Examinations will take place in the *Examination Hall*, University, at the same time as the Examinations in the corresponding subjects for Graduation in Arts with Honours, unless otherwise stated.

### *Fellowships.*<sup>2</sup>

1-5. *Five George Heriot Fellowships for Research* are offered annually. Each of these Fellowships is of the annual value of £100, is tenable for one year only, but may be renewed for a second year.

<sup>1</sup> The Senatus reserve power to relax this Regulation in cases where they are satisfied that very special cause has been shown.

<sup>2</sup> For further information, and for information regarding other Fellowships, Scholarships, Bursaries, and Prizes, *see* above, where full information regarding the conditions and values, &c., are given. The values of the Fellowships, Scholarships, Bursaries, and Prizes are subject to variation consequent on the rise and fall of the rate of interest, &c.



Copies of the regulations and schedules of application may be had from the Governors of George Heriot's Trust, at their Office, 20 York Place, Edinburgh. Applications for Fellowships or for renewal of Fellowships should be made annually, not later than 1st June.

## Scholarships.<sup>1 2</sup>

1. *Mackenzie Scholarship in Classical and English Literature*, No. II., page 173.

2. *Rhind Classical Scholarship*, No. XVI., page 176.

3. *Pitt Club Classical Scholarship*, No. I., page 173.

4. *Bruce of Grangehill and Falkland's Philosophical Scholarship*, No. IX., page 175.

5. *Vans Dunlop Scholarship in Commercial and Political Economy and Mercantile Law*, No. XXV., page 180. The Competition for this Scholarship will take place after the conclusion of the Graduation Examination on Law in October 1901. Names to be entered on or before 28th September.<sup>1</sup>

The following books are recommended:—Adam Smith's *Wealth of Nations*, Book V.; Seebohm's *English Village Community*, Ch. I.-V.; Gomme's *Village Community*; Vinogradoff's *Villeinage in England*; Cunningham's *Growth of English Industry and Commerce*, Vol. I.; Sidgwick's *Principles of Political Economy*, Book III.; Marshall's *Principles of Economics*, Vol. I.; Nicholson's *Principles of Political Economy*; Bastable's *Public Finance*; Pantaleon's *Pure Economics*; Keynes' *Scope and Method of Political Economy*; Sidgwick's *Elements of Politics*, Ch. I.-XII.

6. *Vans Dunlop Scholarship in History*, No. XXX., page 182. The Competition will take place on the third Monday, Tuesday, and Wednesday of October 1901, beginning at 10 A.M. each day. Names to be entered on or before 27th September.<sup>1</sup>

The Subjects of Examination are—

(1) History of Great Britain to 1885.

(2) Constitutional History of (a) England, 1307-1536; (b) United States, 1763-1789; (c) France, 1830-1884.

(3) History of Scotland, 1603-1707, with special reference to the Union of 1707.

7. *Vans Dunlop Scholarship in Moral Philosophy*, No. XXXI., page 182.

The Examination will test knowledge of Philosophy, specially on its Ethical side. It will include the following works:—

(1) Sigwart's *Logic*, vol. i.; Ward's Article on *Psychology*; James *Principles of Psychology* (Chapters on *Association*, *Emotion*, and *Will*). Kant's *Critique of Pure Reason* (The Aesthetic and the Analytic);

<sup>1</sup> See footnote 2, p. 188.

<sup>2</sup> See date of entering for, p. 188.

Plato's *Republic*, and Aristotle's *Nicom. Ethics*, Books i.-iv.; Butler's *Three Sermons on Human Nature*; Kant's *Groundwork of the Metaphysics of Ethics*; Mill's *Utilitarianism*; Sidgwick's *Methods of Ethics*; Hegel's *Philosophy of Right*.

The Examination will begin on Monday, 21st October 1901. Names to be entered on or before 27th September.<sup>1</sup>

8. *Vans Dunlop Scholarship in Natural Philosophy*, No. XXVII., page 181.

The Examination will begin on 4th April 1901, at 2 P.M., and will be (in as far as convenient and practicable) combined with the Examination for Honours in the Department of Mathematics. Names of Candidates to be entered *on or before* 15th March.<sup>1</sup>

9. *Vans Dunlop Scholarship in Mathematics*, No. XXVIII., page 181.

In addition to the Ordinary Honours' Examination, papers will be set on special subjects. The questions, some of which will be texts for short dissertations, will be set so as to allow the candidate to specialise his reading in one or other of the following lines:—(a) Higher Algebra (Salmon, I.-XVII.), Higher parts of Differential and Integral Calculus—for Example, Definite Integrals, Fourier's Theorem, Elliptic Integrals, Differential Equations (Forsyth); (b) Theory of Invariants (Salmon, I.-XVII.), Projective Geometry, Higher Plane Curves (Salmon, Chapters I.-V.), Geometry of Three Dimensions (Salmon, Chapters I.-XIII.). The Professor of Mathematics will give advice regarding a course of reading for the Examination. The Examination will begin on 3rd April 1901, at 9 A.M. Names of Candidates to be entered *on or before* 15th March.<sup>1</sup>

10. *Vans Dunlop Scholarship in Sanskrit and Comparative Philology*, No. XXXII., page 182. The Examination will take place in March 1901.<sup>1</sup> The date will be afterwards announced. Names to be entered *on or before* 15th March.<sup>1</sup>

The following are the subjects of Examination:—*Sanskrit*.—Pāṇcatantra, Books II. and III.; Mṛicchakatikā; Rikṣangraha (Bombay), the whole, with Commentary on Hymns 1-10; Grammar; Composition; General knowledge of Sanskrit literature. *Comparative Philology*.—Delbrück, Introduction to the Study of Language; Henry, Short Comparative Grammar of Greek and Latin; with reference to Sanskrit etymology.

11. *Vans Dunlop Scholarship in Logic and Metaphysics*, No. XXVI., page 180. The examination will test knowledge of Philosophy, especially in the Departments of Logic, Psychology, and Metaphysics, including a special knowledge of the following books:—Sigwart's *Logic*, Vol. I.; Ward's Article on *Psychology*; James's *Principles of Psychology*; Plato's *Phaedo*; Kant's *Critique of Pure Reason*; Aristotle's *Nicom. Ethics*, Books i.-iv.; Kant's *Groundwork of the*

<sup>1</sup> See footnote 2, p. 188.

*Metaphysic of Ethics*; Sidgwick's *Methods of Ethics*. Examination takes place on 15th and 16th October 1900, at 9 and 1 o'clock each day. Names to be entered on or before 19th September.<sup>1</sup>

12, 13. *Two George Heriot's Travelling Scholarships for Teachers of Modern Languages*, No. XLI., page 185.

14. *Macpherson Scholarship*, No. XXXVII., page 184.

The subjects of Examination are : (1) *Tochmarc Etáine* and *Serglige Conculaind* (Windisch's *Irische Texte*). (2) *Modern Gaelic*: Duncan MacIntyre's Poems; Ossian's Fingal, Books I.-III.; and Keating's Three Shafts of Death, Books I., II., and III. (Atkinson's Edition). (3) Translations into English from Old and Modern Gaelic Authors. (4) Translation from English into Gaelic prose (Scottish or Irish). (5) A general knowledge of the History of Gaelic Literature, with more detailed knowledge of the Literature of the Scottish Highlands from A.D. 1560 to 1860. The Scholarship is awarded annually in April. Date to be afterwards announced. Names to be entered

2. *The Earl of Moray Bequest for the Promotion of Original Research*, No. II., page 187.

## Prizes.<sup>2</sup>

1. The *Lord Rector's Prize*, of twenty-five guineas, for the best Essay on the "Outline of events which, in the beginning of the 18th Century, led to the Union of Scotland with England." The Prize is open to Matriculated Students, and to Graduates of not more than two years' standing. Essays to be lodged with the Secretary of Senatus on or before 1st November, each Essay distinguished by a motto, and accompanied by a sealed envelope containing the name, address, and University standing of the Candidate.

<sup>1</sup> See footnote 1, p. 188.

<sup>2</sup> See footnote 2, p. 188.

Plato's *Republic*, and Aristotle's *Nicom. Ethics*, Books i.-iv.; Butler's *Three Sermons on Human Nature*; Kant's *Groundwork of the Metaphysics of Ethics*; Mill's *Utilitarianism*; Sidgwick's *Methods of Ethics*; Hegel's *Philosophy of Right*.

The Examination will begin on Monday, 21st October 1901. Names to be entered on or before 27th September.<sup>1</sup>

8. *Vans Dunlop Scholarship in Natural Philosophy*, No. XXVII., page 181.

The Examination will begin on 4th April 1901, at 2 P.M., and will be (in as far as convenient and practicable) combined with the Examination for Honours in the Department of Mathematics. Names of Candidates to be entered *on or before* 15th March.<sup>1</sup>

9. *Vans Dunlop Scholarship in Mathematics*, No. XXVIII., page 181.

In addition to the Ordinary Honours' Examination, papers will be

*Insertion, to face page 191.*

15. The *George Scott (Travelling) Scholarship*, No. XXXVI., page 183. In 1901 the first preference will be given to a Candidate in the Group of Semitic and Indian Languages. Names to be entered on or before 15th March.

The following are the subjects of Examination:—*Sanskrit*.—*Pāṇcatantra*, Books II. and III.; *Mṛicchakatikā*; *Riksangraha* (Bombay), the whole, with Commentary on Hymns 1-10; Grammar; Composition; General knowledge of Sanskrit literature. *Comparative Philology*.—Delbrück, *Introduction to the Study of Language*; Henry, *Short Comparative Grammar of Greek and Latin*; with reference to Sanskrit etymology.

11. *Vans Dunlop Scholarship in Logic and Metaphysics*, No. XXVI., page 180. The examination will test knowledge of Philosophy, especially in the Departments of Logic, Psychology, and Metaphysics, including a special knowledge of the following books:—Sigwart's *Logic*, Vol. I.; Ward's *Article on Psychology*; James's *Principles of Psychology*; Plato's *Phaedo*; Kant's *Critique of Pure Reason*; Aristotle's *Nicom. Ethics*, Books i.-iv.; Kant's *Groundwork of the*

<sup>1</sup> See footnote 2, p. 188.

*Metaphysic of Ethics*; Sidgwick's *Methods of Ethics*. Examination takes place on 15th and 16th October 1900, at 9 and 1 o'clock each day. Names to be entered on or before 19th September.<sup>1</sup>

12, 13. *Two George Heriot's Travelling Scholarships for Teachers of Modern Languages*, No. XLI., page 185.

14. *Macpherson Scholarship*, No. XXXVII., page 184.

The subjects of Examination are : (1) *Tochmarc Etáine* and *Serglige Conculaind* (Windisch's *Irische Texte*). (2) *Modern Gaelic*: Duncan MacIntyre's *Poems*; Ossian's *Fingal*, Books I.-III.; and Keating's *Three Shafts of Death*, Books I., II., and III. (Atkinson's Edition). (3) Translations into English from Old and Modern Gaelic Authors. (4) Translation from English into Gaelic prose (Scottish or Irish). (5) A general knowledge of the History of Gaelic Literature, with more detailed knowledge of the Literature of the Scottish Highlands from A.D. 1560 to 1860. The Scholarship is awarded annually in April. Date to be afterwards announced. Names to be entered on or before 15th March.<sup>1</sup>

15. *The George Scott Scholarship*, No. XXXVI., page 183. The competition in 1901 will be in Semitic and Indian languages. Names to be entered on or before 15th March.<sup>1</sup>

16. *Neil Arnott Scholarship for Experimental Physics*, No. XIX., page 177.

17-19. *Three Ferguson Scholarships*, No. XX., page 178. Apply at the Office of the Ferguson Bequest Fund, 94 Bath Street, Glasgow, before 1st September.

20, 21. *Two Ritchie Scholarships*, No. XXXIX., page 184.

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## Funds for Special Study or Research.

1. *The William Dickson Travelling Fund*, No. I., page 187.

2. *The Earl of Moray Bequest for the Promotion of Original Research*, No. II., page 187.

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## Prizes.<sup>2</sup>

1. *The Lord Rector's Prize*, of twenty-five guineas, for the best Essay on the "Outline of events which, in the beginning of the 18th Century, led to the Union of Scotland with England." The Prize is open to Matriculated Students, and to Graduates of not more than two years' standing. Essays to be lodged with the Secretary of Senatus on or before 1st November, each Essay distinguished by a motto, and accompanied by a sealed envelope containing the name, address, and University standing of the Candidate.

<sup>1</sup> See footnote 1, p. 188.

<sup>2</sup> See footnote 2, p. 188.

2. *Scott and Dunbar Prize*, of about £20, will be awarded at the end of the Winter Session to the most deserving student in the Greek Classes.

3. *Bruce of Grangehill and Falkland's Prize*, of £20 (also £10 for prizes in the Junior Division of the Class), for the most distinguished Student in the Classes of Logic and Metaphysics, in Session 1900-1901, to be awarded "on such competition as the Professor may direct."

4. *The Elizabeth Hamilton Prize* of £5 is offered to the best Woman Student in the Class of Logic.

5. *Neil Arnott Prize*, about £37, 10s., will, failing the appointment of a Student of Medicine, be awarded in October to the Candidate for the Degree of M.A. who has undergone with most distinction the ordinary examination in Natural Philosophy, with such additional examination in Experimental Physics as the Examiners may require.

6. *Cousin Prize in Fine Art*, of about £15, will be awarded at the end of the Winter Session for excellence in the Class of Fine Art.

7, 8, 9. *The Trustees of Gray's Prize Essay Fund* may offer Prizes of £15, £10, and £5 for the first, second, and third best Essays on "The Ballad Literature of Scotland." For further information apply to the Rev. John Blackwood Munro, Duns, Secretary to the Trustees.

10, 11. *Two Newton Bursaries or Prizes*, of about £21 each, tenable for two years, are awarded annually at the end of the Winter Session—one for proficiency in the Senior (Second) Class of Mathematics, and one in the Junior Class of Natural Philosophy.

12. *The Kelland Memorial Prize*, of about £4, 12s., will be awarded by Examination in October. The paper will be on the Higher Geometry for the John Welsh Bursaries (set on Monday, 8th October, at 9 A.M.), with such additional questions as may be deemed necessary. Students who made a complete attendance on the Junior Mathematics Class for the first time in the previous Session (1899-1900) will alone be eligible to compete for the prize in October next. Names to be given in not later than 19th September.

13-14. *Two Prizes* offered by the Franco-Scottish Society. For particulars, apply to A. A. Gordon, Esq., C.A., Hon. Sec., Franco-Scottish Society, 128A George Street, Edinburgh.

## Bursaries.<sup>1</sup>

FOR STUDENTS ENTERING THEIR FIRST YEAR.

(For Time-Table of Examinations, see pages 121-124.)

Bursaries in Arts heretofore tenable for four years shall continue to be so tenable, provided that, if the holders graduate after three years, they shall only retain their Bursaries during a fourth year if they shall engage in study approved by the Senatus in subjects included in the

<sup>1</sup> See footnote 2, p. 188.



Curriculum for Degrees in Arts or in Pure Science. Bursars in Arts, subject to the provision as to the fourth year of tenure, shall attend in each year at least two classes qualifying for Graduation in Arts, and shall duly perform the work of these classes : Provided (1) that, for the purposes of this section, the classes known as Middle Classes, so long as the same exist, may be attended in place of classes qualifying for Graduation ; and (2) that it shall be in the power of the Senatus, with approval of the University Court, to permit such Bursars to attend classes qualifying for Graduation in Pure Science in place of classes qualifying for Graduation in Arts. [See Ordinance No. 57.]

The Bursaries are awarded on the results of the University Bursary Examinations unless otherwise stated, and are tenable at the University of Edinburgh only. The Senatus reserve the power, under Section VIII. of Ordinance No. 57, to award not more than two First Year Bursaries in Arts in respect of exceptional distinction in any one branch of study.

For Bursary and other purposes, where the phrase "First-year's Student in Arts or Pure Science" is not by Deed of Foundation or otherwise defined, it shall mean "A Student in Arts or Pure Science who has not attended any class qualifying for Graduation in the said Faculties in any Scottish University."

The Subjects of Examination for the first year Bursaries, Nos. 1 to 23 inclusively in the following list, are the subjects prescribed for the Preliminary Examination, viz. :—English (full marks 100), Latin (100), Greek (100), Mathematics (100), French (50), German (50), Italian (50), and Dynamics (50), with additional papers in English, Latin, Greek, Mathematics, French, and German. Candidates may select not more than five subjects ; provided always that no Candidate will be credited with marks in any subject in which he has not obtained twenty-five per cent. of the total marks assigned to that subject. Those who select Latin, Greek, or Mathematics must for the Bursary Competition take the papers on these subjects on the Higher Standard. The Examination Papers are indicated in the Time-Table of Examinations by the figure 1.

Candidates for Bursaries [Nos. 24 to 30 inclusively, and others] which are not awarded by open competition must present themselves for the Preliminary Examination in Arts prescribed by the Regulations for Degrees in Arts, Section III., and no Bursary shall, except as hereinafter provided, be awarded to any Candidate who shall not have passed the Preliminary Examination in Arts (or its equivalent). But it is in the power of the Senatus, with the approval of the University Court, to admit to a Bursary in Arts not awarded by open competition a Candidate who shall have passed in at least one subject of the Preliminary Examination, on the condition that he shall not retain the Bursary unless he shall have passed in all the subjects not later than the Second Preliminary Examination after the date of his admission as Bursar. When there are more than one eligible Candidate

for a restricted or preferential Bursary [Nos. 24 to 30 inclusively, and others], the Subjects of Examination are:—English (as for Arts and Science Preliminary), Lower Latin, Lower Greek, and Lower Mathematics. Candidates for the MacKinnon and Ardvorlich<sup>1</sup> Bursaries will in addition get Translation of an easy passage from Gaelic to English, Translation of Sentences from English to Gaelic, and Elementary Questions in Gaelic Grammar. The papers are indicated in the Time-Table of Examinations by the figure 3.

Candidates for Bursaries Nos. 1 to 31 inclusively may on and after 10th September obtain schedules at the Matriculation Office, University (Old) Buildings, which must be completed and returned to the Clerk of Senatus *on or before* 19th September. The Senatus may relax this Regulation in cases where very special cause has been shown.

*Town Council Bursaries.*—Candidates for Bursaries in the gift of the Town Council, a number of which are vacant, are referred to the "*City Clerk, Council Chambers, Edinburgh,*" to whom early application should be made. The Examination is the same as for the University Open Bursaries.

County Clubs, and others who prefer this examination, may, by arranging with the University Court, avail themselves of the University Examinations by giving written intimation of the names of their Candidates at the Matriculation Office not later than 19th September. Those who desire to have their Bursaries inserted in the CALENDAR, under the head of Bursaries open during the year, are requested to give intimation to the Editor of the CALENDAR before 1st January.

*County Club and Private Bursaries.*—Candidates for Bursaries instituted by various County Clubs are referred to the respective Secretaries of those Clubs. Information as to Private Bursaries may be obtained from the Patrons or from their Agents.

Candidates for Bursaries, unless also Candidates for the Preliminary Examination, pay no fee.

*The names of the successful Candidates, and of others distinguished in the ordinary Bursary competition, will be published, in the order of merit, in the University Calendar, along with the names of the schools from which they come, provided that they have matriculated and enrolled in the necessary classes for 1900-1901.*

#### FIRST YEAR BURSARIES OPEN IN SEPTEMBER-OCTOBER 1900.

1. *One John Welsh Classical Bursary*, of the annual value of £20, tenable for four years. Subjects of examination—Latin, Greek, English.

2. *One John Welsh Mathematical Bursary*, of the annual value of £20, tenable for four years. Subjects of examination—Mathematics, especially pure Geometry. (Candidates are recommended to

<sup>1</sup> Ardvorlich not open in 1900.

read Macdonald's *Higher Geometry*, Wilson's *Solid Geometry and Conic Sections*, and Casey's *Sequel to Euclid*, as partly indicating the scope of the examination in Geometry. What will be looked for is, not so much exhaustive knowledge of all the more intricate theorems, as a thorough knowledge of such as are more elementary and fundamental in their character, and ability to apply these in fairly straightforward exercises.)

3. *Jardine (Bidder) Bursary* of £43, 12s. a-year, tenable for four years.

4. *James Fairbairn Bursary*, of the annual value of £36, tenable for four years. It cannot be held along with any other Bursary or Scholarship.

5. *Cousin Bursary*, £28 a-year, tenable for three years. The Bursary cannot be held along with any Fellowship, Scholarship, or Bursary, or with any situation or appointment yielding an annual income of £30 or upwards.

6. *Patrick Bursary*, of about £50 a-year, tenable for four years, for those who have completed their School Education at Ayrshire schools or academies where a course of Classical Study is pursued. The rectors or head teachers of each of said schools or academies may grant a certificate or letter to any number, not exceeding four, of the best scholars who have completed their course of education at such school or academy, and are in a position to enable them to apply for admission to the University; and the parties holding such letters or certificates are entitled to present themselves for examination as candidates for the Bursaries. Failing qualified candidates, the Senatus may award by open competition.

7. *One Whitelaw Bursary*, of about £23, tenable for three years.

8. *A Baxter of Balgavies Bursary*, of the annual value of £30, and tenable for three years, open both to men and women who have been educated in the High School of Dundee for at least one year immediately preceding the competition. The subjects of examination are the same as for the First Year Open Bursaries with the omission of Italian, and the addition of Chemistry (full marks 50) as a subject of examination. Candidates may select not more than five subjects, and the successful candidates may study for the Degrees of M.A., B.Sc., B.L., LL.B., or M.B., Ch.B.

9. *M'Kenzie (Stornoway) Bursary*, of about £27 yearly, tenable for four years. Candidates of the name of M'Kenzie have a preference, provided they have passed the Preliminary Examination in at least two subjects, one of which must be Latin, Greek, or Mathematics on the Higher Standard.

10. *Cowan Bursary*, £30 a-year for two years, and £20 for third year. Confined to students of Ayr Academy. Candidates' names must appear in Distinguished or Honours List, or Bursary will not be awarded. Apply to J. G. M'Skimming, Esq., Accountant, Ayr.

11. *Tyndall Bruce Bursary*, of the annual value of £20 a year, tenable for three years.

12, 13. *Two Sibbald Bursaries*, each of the annual value of £30, tenable for three years. Apply to Messrs Mackenzie, Innes & Logan, W.S., 23 Queen Street, Edinburgh, before 15th September.

14. *Thomson Bursary*, £25 a-year, tenable for four years. Apply to Messrs Traquair, Dickson & Maclaren, W.S., 11 Hill Street, Edinburgh, before 15th September.

15. *One University Endowment Association Bursary*, of about £16 a-year, tenable for three years. It cannot be held with any other Bursary in any Scottish University.

16. *One Mann Bursary*, of about £27 a-year, tenable for three years. Candidates must be sons of residents in the town of Nairn, *i.e.*, one or other of their parents must have resided within the municipal boundaries for at least twelve months at some period prior to the competition. Should there be no qualified Candidate of the first year for this Bursary, a notice will be posted at the College gate soon after the Bursary Competition. Other Preferential Candidates must then lodge their claims within one week after the notice appears on the Board.

17-19. *Three Jardine of Thorlieshope Bursaries*, each of the annual value of £35, tenable for four years. Open only to natives of the rural districts of Roxburghshire and Dumfriesshire (villages and towns with a population of 2000 and upwards being excluded) who have attended the Public or Board Schools in said Counties. The Bursars are required to attend the classes necessary for the Degree in Arts, and to take the Degree at the end of the course. In the event of there being no qualified First Year Student, the Bursary may be given to a Candidate of the previous year who does not hold a Bursary, or thrown open to competition for one year only to second, third, or fourth year Students in succession.

20. *Edinburgh Ayrshire Club Bursary*, of £30 a-year, tenable for two years. Restricted to natives of Ayrshire (men and women). For particulars apply to Andrew White, Esq., W.S., 23 Castle Street, Edinburgh, before 15th September.

21. *A Maule Bursary*, of about £21 a-year, tenable for six years, for the maintenance and education of a poor and deserving student if he shall continue so long to prosecute his studies at the University.

22. *Fotheringham and Forrest Bursary*, failing a Preferential Candidate. (See No. 26.)

23. *Marshall Bursary*, failing a Preferential Candidate. (See No. 24.)

24. *Marshall Bursary*, of about £32, tenable for four years—restricted, first, to relatives of the Founder; secondly, to those of the name of Marshall; and thirdly, to natives of West Lothian.

25. *Mackinnon Bursary*, of about £20 a-year (under deduction of expenses), tenable for three years. Candidates must be natives of

the Counties of Argyll, Bute, Inverness, Ross, or Sutherland, and must be examined in Gaelic.

26. *Fotheringham and Forrest Bursary*, of the annual value of about £19, tenable for four years—restricted in the first place to relatives of Founder, in the second place to such as are of the name of Fotheringham, and in the third place to such as are of the name of Forrest; and failing all these, to be awarded as an Open Bursary.

27. *The A. Johnston Bursary*, £13, tenable for four years. Apply to the Patron, the Earl of Haddington.

28. *Mitchell and Shortt Bursary* in Mathematics, about £22, tenable for two years. Bursar must attend Classes in the Curriculum in Arts. Apply to Dalgleish & Bell, W.S., 1 Rutland Square, agents of the Earl of Morton, before 15th September.

29. *The Trotter and Penman Bursary*, of about £13, for four years, apply to Dundas & Wilson, C.S., 16 St Andrew Square, agents of Captain Gordon Gilmour of Craigmillar.

30. *The Earl of Zetland Bursaries*. One of these bursaries, of the value of about £40 per annum, tenable for three years, is open for competition to First Year Students (male or female), natives, or children of parents one or both of whom have been born in or connected for a long period of years with the Islands of Orkney and Zetland. Examination as for Preferential Bursaries. The Bursar must attend the classes in the Curriculum with a view to a Degree in Arts. Apply to Messrs Dundas & Wilson, C.S., 16 St Andrew Square, Edinburgh, before 15th September.

31. *Renton Bursary* (not restricted to Students of the First Year), of about £20, for one year. The holder must attend one or more of the classes of Natural Philosophy, Mathematics, Chemistry, or Political Economy. Pecuniary circumstances will be taken into consideration. It cannot be held by anyone under the age of sixteen or above twenty-one, or with another Bursary of the annual value of £30 or upwards. The examination is in English and Mathematics, as for the First Year Open Bursaries. See Time-Table, page 123. Names of Candidates to be entered on or before 19th September.

32. *Donald Fraser Bursary*, of £51, for high merit in the class of Natural Philosophy, combined with proficiency in Laboratory Work, is awarded annually at the end of the Winter Session.

33. *Seven George Heriot Bursaries for Men* will be offered for Competition to Students matriculating at the University for the first time, after having passed the Preliminary Examination for a Curriculum in Arts or Science. Each Bursary is of the annual value of £30 a-year, and may be tenable for three years. Subjects of examination:—(1) Latin; (2) Mathematics; (3) English; (4) Greek; (5) French; (6) German; (7) Italian; and (8) Dynamics, with additional papers



in English, Latin, Greek, Mathematics, French, and German. Candidates may select not more than five subjects of examination. The examination papers are indicated by the figure 1 in the Time-Table of Examinations. Schedules of applications for these Bursaries may be had from the *Governors of George Heriot's Trust*, at the Office of the Treasurer, 20 York Place, Edinburgh, on and after 15th August, and must be returned to him not later than 15th September. Candidates are required to state in their schedules of application the subjects in which they offer themselves for examination.

34. *Three Heriot High School Bursaries*, of £30 a-year, tenable for three years. Regulations as in last paragraph.

35. *Nine George Heriot Bursaries for Women* will be offered for competition to Students matriculating at the University for the first time, after having passed the Preliminary Examination for a Curriculum in Arts or Science. Each Bursary is of the value of £30 a-year, and may be tenable for three years. The subjects and conditions of the examinations are the same as for the Bursaries for men. Application to be made in the manner referred to in the previous paragraph. The examination papers are indicated by the figure 1 in the Time-Table.

36. *One George Heriot Bursary for Women* studying Medicine, for attendance at any School of Medicine for Women in Edinburgh recognised by the University Court. The Bursary is of the value of £30 a-year, and may be tenable for three years. Candidates *must pass the Preliminary Examination of the University either in Arts or Science*. They may take as many subjects in addition to those qualifying for the Preliminary Examination as they please; but should they fail to secure 25 per cent. of the marks allotted to a subject the paper will be cancelled. Application to be made in the manner referred to in the previous paragraph.

37, 38. *Two Simson Bursaries*, of the annual value of £25, tenable for three years, for Students who, having passed the Preliminary Examination, are entering on the first year of the course in Arts and are studying for the Ministry of the Church of Scotland. See definition of a First-year's Student, at page 193. The Examination will be held at the end of October or beginning of November. Apply to the Rev. G. T. Jamieson, Clerk to the Presbytery of Edinburgh, The Manse, Portobello.

39. *A Macdougall Bursary*, of £30 per annum, tenable for three years. Candidates must have been born within the County or City of Perth. Students attending the Gaelic Class preferred. It cannot be held with any other Bursary or appointment yielding together upwards of £50 per annum. Apply to W. Cochrane Young, Esq., Solicitor, Perth.

40-42. *Bursaries offered by The Edinburgh Association for the University Education of Women—*

(1) *The Victoria Jubilee Bursary*, founded by His Excellency Dr



Gunning, £30 for one year, to be held at Masson Hall. Open to a third year Student desiring to graduate in Arts or Science with Honours.

(2) *The Earl of Zetland's Bursary*, about £20 for one year.

(3) *The Houldsworth Bursary*, of about £20 for two years. Open to Candidates intending to become teachers.

These Bursaries are offered to women Candidates. The Subjects of Examination for 2 and 3 are the same as for the University First Year Open Bursaries, see page 193. They cannot be held along with any other Bursary or Scholarship whatsoever, and will be awarded to such Candidates as in the opinion of the Executive Committee best fulfil the conditions of the several trusts.

Apply by letter to the Hon. Secretary of the Association, Miss Louisa Stevenson, 13 Randolph Crescent, Edinburgh, before 15th September.

43-46. *The Buchanan Society gives Four Bursaries annually* in Arts, Science, and Medicine, open to suitable young men of the names of Buchanan, M'Millan, M'Auslan, M'Wattie, and Risk, and tenable at any Scottish University. The Examination generally takes place in September, and the papers set are of equal value for full marks in all subjects. The four competitors who have the highest marks get the Bursaries, provided a satisfactory standard of proficiency is attained. They may therefore be given all in Arts, or Science, or Medicine. The Arts Bursaries are of the annual value of £20 each, tenable for three years. The Science Bursaries are of the annual value of £30 each, tenable for four years, and the Medical Bursaries are of the annual value of £35 each, and tenable for five years.

For rules and further particulars apply to P. G. KEYDEN, 186 West George Street, Glasgow, *Secretary*; or to George S. Buchanan, 85 Candleriggs, Glasgow, *Treasurer*.

47. *The M'Glashan Bursary, offered through Committee of St George's Classes*.—Bursary of £10 for one year, offered to the woman student who passes highest among members of the St George's Oral or Correspondence Classes completing the Arts Preliminary Examination in October. For further information apply to the Secretary, St George's Classes, 5 Melville Street, Edinburgh.

48. *Border Counties Bursary*, of £20 a-year, tenable for four years. Open to competition by Scholars (women as well as men) who have attended any school in either of the Counties of Roxburgh, Berwick, Selkirk, or Borough of Berwick-on-Tweed, for two complete sessions immediately prior to the time of their examination for the Bursaries. The Bursars must attend the classes necessary for a Degree in Arts. Application to be made to Mr T. Usher, Sheriff Court House, Edinburgh.

FOR STUDENTS ENTERING THE SECOND SESSION IN ARTS.<sup>1</sup>*See Time-Table of Examinations, pages 122-124.*1. *Tyndall Bruce Bursary*, £35 a year, for three years.

The subjects of examination are Latin, Greek, and Mathematics.

The following subjects are prescribed for the examinations in Latin and Greek:—*Latin*—Virgil, *Aen.*, vii., viii., and ix; Tacitus, *Annals*, iii. *Greek*—Homer, *Iliad*, xviii. and xxii.; Æschylus, *Prometheus Vincit*; Thucyd., Bk. vi. Latin and Greek prose composition, and translation from books not prescribed.

Names of Candidates to be entered on or before 19th September.<sup>1</sup>

2, 3. *Two Spence Bursaries*, each of the annual value of £30 for first year and £40 for second year of tenure, open to Students of either sex who, after passing the Preliminary Examination or examination accepted as equivalent thereto, have attended one Winter Session qualifying for graduation or its equivalent, and who intend to complete the course of study for the Degree of M.A. The Governors may award to any Bursar, if they shall be satisfied of his or her merit, a continuation Bursary of £50, tenable one year, on condition that the Bursar shall for that year attend such a Curriculum of study in any of the Faculties as the Governors may approve. The next examination will take place at Edinburgh in September or October 1900. Apply to Mr Henry A. Pattullo, Solicitor, 1 Bank Street, Dundee, Factor to the Trust, for particulars. Schedules of application duly filled up, to be odged on or before 1st September.

FOR STUDENTS ENTERING THE THIRD SESSION IN ARTS.<sup>1</sup>*See Time-Table of Examinations, pages 122-124.*1. *Horsliehill Scott Bursary*, of about £33, for two years (under deduction of expenses).

The subjects of examination are Classics, Mathematics, and Logic with Psychology and History of Philosophy).

The following subjects are prescribed for the examination in Classics:—*Latin*—Virgil, *Aen.*, ii.; Horace, *Epp.*, ii.; Cicero, *De Oratore*, Bk. iii. *Greek*—Æschylus, *Prometheus Vincit*; Thucyd., Bk. vi. Latin and Greek prose composition and translation from books not prescribed.

No special books prescribed for Mathematics, or for Logic with Psychology and History of Philosophy. Candidates should revise the lectures and text-books in these classes.

The attention of all Bursars in the Faculty of Arts is particularly called to the following regulation:—

“Bursars in the Faculty of Arts (to whose Bursaries special condi-

<sup>1</sup> See footnotes 1 and 2, page 188.

tions are not attached) must annually attend at least two of the Classes necessary for the Degree of Master of Arts, and must present themselves at the Examinations necessary for that Degree.

“Each Bursar must present a Certificate, signed by the Dean, attesting his regular attendance on the proper Classes in the Faculty of Arts, on each occasion on which he applies to the Factor for a payment.”

Certificates, in terms of this regulation, will be given to Bursars, by the *Dean of the Faculty of Arts*, after 15th November, and at the end of the Session. In applying to the Dean for the Certificate in November, Bursars must present their Class Cards for the Session; and at the end of the Session they must present certificates from the Professors that they have attended with regularity and made progress in their studies. Payments are made by the University Factor, Mr Henry Cook, W.S., 61 North Castle Street, Edinburgh, on and after 14th November for the Martinmas payments, and on and after 18th May for the Whitsunday payments,—between 10 and 3 o'clock.

N.B.—*Bursars, Scholars, and Fellows who desire to resign should at once announce this to the Factor. They must apply to the Factor for the instalments due to them within three months after they have become payable, otherwise they will be regarded as having resigned.*

G. CHRYSTAL, LL.D.,  
*Dean of the Faculty of Arts, and  
Professor of Mathematics.*

# Faculty of Science.

Dean—PROFESSOR GEIKIE, D.C.L., LL.D.

*Students who do not intend to graduate may attend any of the Classes on payment of the Matriculation and the Class Fees, without having passed any Preliminary Examination. Attendance on any Class with a view to Graduation in Pure Science will not qualify unless the whole Preliminary Examination has been previously passed. Those who intend to graduate in Engineering or in Agriculture must pass the Preliminary Examination before they present themselves for any part of the First Science Examination, but not necessarily before entering on the Curriculum. The Classes in the Faculty, except a few in which arrangements have not yet been made, are now open to women.*

## Programme of Classes.

### WINTER SESSION, 1900-1901.

*The Classes meet daily (Saturdays excepted), unless otherwise stated:—*

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Junior Mathematics...	16 Oct., 12 o'cl.	Prof. Chrystal	£3 3
Senior Mathematics <sup>4</sup> ..	16 Oct., 9 "		3 3
Mathematics (Intermediate Honours)	19 Oct., 11 "		3 3
Do. (Advanced Honours).....	17 Oct., 10 "		3 3
Zoology (Elementary)	16 Oct., 12 "	Prof. Ewart .....	4 4
Practical Zoology (Elementary)....	16 Oct., 11 "		2 2 <sup>2</sup>
Advanced Zoological Laboratory <sup>5</sup> ..	... ..		...
Morphology of Vertebrates (with Laboratory work)	17 Oct., 2 "	J. Beard, D.Sc...	3 3 <sup>2</sup>
Comparative Embryology.....	9 Jan., 2 "		3 3 <sup>3</sup>

<sup>1</sup> Fees for second and subsequent attendances, see page 206.

<sup>2</sup> Besides charge of 10s. for Laboratory Expenses.

<sup>3</sup> Five Shillings University Entrance Fee for non-matriculated Students. Payment of the Entrance Fee does not entitle the student to a Class Certificate, nor confer any other University privilege.

<sup>4</sup> The first half up to Christmas qualifies as a First Half-Course, and the second half from Christmas to the end of the Session as a Second Half-Course. Any First Half-Course, along with any Second Half-Course, taken subsequently, qualifies as a full Course for Graduation.

<sup>5</sup> For Fees, see Footnote 2, page 208.

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Botany (Advanced) ...	16 Oct., 11 o'cl }	Prof. B. Balfour }	£3 3 <sup>2</sup>
Prac. Bot. (Advanced)	17 Oct., 11 ,, }		2 2 <sup>2</sup>
Plant Physiology .....	16 Oct., 10 ,, }	{ A. W. Borthwick, B.Sc...	2 2 <sup>2</sup>
Natural Philosophy...	16 Oct., 11 ,, }		{ 3 3
Do. (Advanced)	24 Oct., 12 ,, }	Prof. Tait.....	{ 3 3
Honours).....	22 Oct., 10 ,, }		{ 2 2
Physical Laboratory			
Natural Philosophy (Intermediate Honours Course)	17 Oct., 9 ,, }	Cargill G. Knott, D.Sc.....	{ 3 3
(Mon., Wed., Fri.)			
Dynamics (Advanced Science Course)	17 Oct., 10 ,, }		{ 3 3
(Mon., Wed., Fri.)			
Chemistry .....	16 Oct., 10 ,, }	Prof. Crum Brown	{ 4 4
Practical Chemistry...	26 Nov., 11 & 2,, }		{ 3 3
Chemistry (Advanced Course) ..	8 Jan., 4 ,, }		{ 2 2
(Tu. Wed. & Th)			
Chemical Laboratories <sup>5</sup>	16 Oct., 9.30 ,, }		{ ...
Astronomy (Mon., Tues. Wed. Thurs.) }	17 Oct., 4 ,, }	Prof. Copeland..	3 3
Anatomy .....	16 Oct., 1 ,, }	Prof. Sir William Turner.....	{ 4 4
Practical Anatomy...	1 Oct., daily. }		{ 3 3
Regional Anatomy (Anatomical Demonstrations).....	17 Oct., 4 o'cl. }	{ David Hepburn, M.D.....	{ 2 2 <sup>3</sup>
Physiology .....	16 Oct., 10 ,, }	Prof. Schäfer....	4 4
Pract. Physiology:—			
Experimental.....	17 Oct., 10-12 ,, }	Prof. Schäfer, Dr Milroy and assistants .....	{ 2 2
Chemical .....	17 Oct., 9-10 ,, }		{ 1 1
Adv. Pract. Physiol. (Experi. & Chem.) <sup>6</sup>			{ 3 3
Geology & Mineralogy	16 Oct., 4 ,, }	Prof. Geikie....	{ 4 4
Prac. Class <sup>1</sup> (Mon., Wed., & Fri.) ... }	19 Oct., 2-4 ,, }		{ 3 3 <sup>4</sup>
Engineering .....	1 Nov., 9 ,, }	Prof. Armstrong	{ 4 4
San. Eng. & Build. Constr. relative to Pub. Health...	6 Nov., 10 ,, }		{ 2 2

<sup>1</sup> Fees for second and subsequent attendances, see page 206.

<sup>2</sup> Besides Garden Fee of Five Shillings.

<sup>3</sup> When taken along with Practical Anatomy, £1, 1s.

<sup>4</sup> First part of this Course up to Christmas qualifies as a Half-Course for Graduation in Arts. Fee, £2, 2s.

<sup>5</sup> For fees, &c., see footnote 1, page 208.

<sup>6</sup> Dates to be arranged.

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Public Health and Sanitary Science } Do. Laboratory <sup>7</sup> .....	<i>In Summer only.</i> 2 Oct., daily.	{ Prof. Hunter Stewart .....	{ £4 10 10
Engineering (short additional Course: Applied Mech.)... } Geomet. and Mech. } Drawing.....	16 Oct., 9 o'cl. } 1 Nov. 10 to 2 ,, } 19 Nov., 12 ,, }	{ W. Hume Kerr, M.A., B.Sc.... }	{ 3 3 2 2
Lectures ( <i>Mon. &amp; Thur.</i> )..... } Drawing in its relation to Public Health..... }	5 Nov., 11 ,, }		{ 2 2
Agriculture and Rural Economy.. } Economics as applied to Agriculture ( <i>The Political Economy Class in Arts till Christmas</i> )..... }	18 Oct., 9 ,, } 16 Oct., 5 ,, }	{ Prof. Wallace .. Prof. Nicholson	{ 4 4 2 2
Agricultural Chemistry..... } Do. Advanced Laboratory Class.. }	16 Oct., 3 ,, } 16 Oct., 12-4 ,, } ( <i>Tu. &amp; Fri.</i> ) }	{ A. P. Aitken, D.Sc..... }	{ 3 3 4 4 <sup>5</sup>
Forestry .....	16 Oct., 10 ,,	Col. Bailey, R.E.	3 3 <sup>2</sup>
Agricultural Entomology (Twenty Lectures)..... }	8 Jan., 2 ,, }	{ W. Fream, LL.D., B.Sc. (Lond.) }	{ 2 2 <sup>2 3</sup>

### SUMMER SESSION, 1901.

*The Classes meet daily (Saturdays excepted), unless otherwise stated.*

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Senior Mathematics (First Graduation Half-Course) <sup>4</sup> .....	1 May, 11 o'cl.	{ Chas. Tweedie, M.A., B.Sc.	{ £ s. 2 2
Senior Mathematics (Second Graduation Half-Course) <sup>4</sup> .....	1 May, 12 ,,		{ 2 2

<sup>1</sup> Fees for second and subsequent attendances, see page 206.

<sup>2</sup> See footnote 3, page 202.

<sup>3</sup> Free to all present and past Students of the Agriculture Class.

<sup>4</sup> For Regulations as to Half-Courses, see footnote 4, page 202.

<sup>5</sup> On payment of this fee, students who have already attended the Ordinary Class will be readmitted to that class.

<sup>6</sup> No Fee for Students of class of Systematic Engineering.

<sup>7</sup> Fees :—Winter Session, £10 10s. ; Summer Session, £6, 6s.



Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Honours Mathematics (Graduation Half-Course).....	} 1 May, 10 o'cl.	{ Chas. Tweedie, M.A., B.Sc.	{ £ 5. 2 2
Physics ( <i>mainly for Students of Medicine</i> )	} 1 May, 12 „	Prof. Tait.....	3 3
Physical Laboratory ...	1 May, 10 „	{ Prof. Tait and Assistant.....	} 2 2
Elementary Dynamics	1 May, 9 „	C.G. Knott, D.Sc.	2 2
Advanced Experimental Physics.....	} 1 May, 10 „	W. Peddie, D.Sc.	2 2
Chemistry (Organic)	1 May, 1 „	{ Prof. Crum	{ 2 2
Do. (Practical)....	1 May, 2 „	{ Brown.....	{ 3 3
Chemical Laboratories <sup>5</sup>	1 May, 9.30 „		{ ...
Chemical Theory ( <i>Mon. &amp; Fri.</i> ) .....	} 3 May, 10 „	{ Leonard Dobbin, Ph.D. ....	} 1 1
Mineralogy and Crystallography .....	} 1 May, 9 „	{ Hugh Marshall, D.Sc.....	} 2 2
Astronomy (Advanced) ( <i>Tues. &amp; Fri.</i> ).....	} 1 May, 11 „	Prof. Copeland....	2 2
Practical Anatomy.....	1 May, <i>daily</i> .	{ Prof. Sir W. Turner and Demonstrators	} 2 2 2 2 <sup>2</sup>
Anthropology.....	} 7 May, 1 o'cl.		
Regional Anatomy (Anatomical Demonstrations).....	} 1 May, 11 <i>daily</i> .	{ David Hepburn, M.D.....	{ ...
Pract. Physiol. (Histol.)	1 May, <i>several hours</i> .	{ Prof. Schäfer, Dr Milroy and assistants	{ 2 2 2 2
Adv. Pract. Phys. (Histol.) <sup>7</sup> .....			
Geology ( <i>Mon., Wed., Fri.</i> ).....	1 May, 4 o'cl.		3 3 <sup>3</sup>
Field Demonstrations on <i>Saturdays</i> .	} ... ..	{ Prof. Geikie,....	{ ...
Petrology ( <i>Mon., Wed., Fri.</i> ).....	} 1 May, 10-12 „	{ J. S. Flett, M.A., B.Sc., M.B., C.M. ....	} 2 2
Zoology (Elementary).	1 May, 12 „		4 4
Do. (Elementary Practical) .....	1 May, <sup>6</sup> „	{ Prof. Ewart.....	{ 2 2 <sup>4</sup>

<sup>1</sup> Fee for second or subsequent attendances, see page 206.

<sup>2</sup> When taken with Practical Anatomy, £1, 1s.

<sup>3</sup> This Course qualifies as a Half-Course for Graduation in Arts.

<sup>4</sup> Besides charge of 10s. for Laboratory Expenses.

<sup>5</sup> For Fees, &c., see footnote 1, page 208.

<sup>6</sup> At hours to be arranged.

<sup>7</sup> Days and hours to be arranged.

Classes.	Days of Opening and Hours of Attendance.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Invertebrate Zoology ..	} 1 May, o'cl.	} Prof. Ewart....	£ 5.
Do. (with Lab. Work)			2 2
Natural History La- boratory.....	} 1 May, 2 ,,	} Prof. Ewart....	3 3 <sup>2</sup>
Botany .....			6 6
Practical Botany.....	} 1 May, 8 ,,	} Prof. Bayley	4 4 <sup>3</sup>
Field Demonstrations on <i>Saturdays</i>			2 2 <sup>3</sup>
Plant Physiology .....	} ... ..	} Balfour.....	...
Engineering Field- Work (Surveying, Levelling, &c.) <sup>4</sup> .....			...
Public Health and Sanitary Science.....	} 1 May, 2 ,,	} A. W. Borth- wick, B.Sc.	2 2 <sup>3</sup>
Do. Laboratory <sup>5</sup> .....			...
Engineering Field- Work (Surveying, Levelling, &c.) <sup>4</sup> .....	} 12 June, 9.30 ,,	} Prof. Armstrong...	3 3
Public Health and Sanitary Science.....			...
Do. Laboratory <sup>5</sup> .....	} 1 May, 3 o'cl.	} Prof. Hunter	4 4
Do. Laboratory <sup>5</sup> .....			6 6
Do. Laboratory <sup>5</sup> .....	} 1 May <i>daily</i> .	} Stewart.....	6 6
Do. Laboratory <sup>5</sup> .....			6 6

### FEEES FOR SECOND OR SUBSEQUENT ATTENDANCES.

1. *Lecture Courses*, which qualify alike for Graduation in Science and Medicine: Second attendances on £4, 4s. Courses, £3, 3s. ; on £3, 3s. Courses, £2, 2s. ; subsequent attendances free : second attendances on £2, 2s. Courses, no reduction ; third or subsequent attendances, £1, 1s. Perpetual Tickets for initial payment, £6, 6s. No reduction for re-attendances on Practical Classes or Laboratories.

2. *Lecture Courses* which qualify both for Arts and Science: Second attendances on £4, 4s. Courses, £3, 3s. ; third or subsequent attendances, £1, 1s. ; second attendances on £3, 3s. Courses, £2, 2s. ; third or subsequent attendances, £1, 1s. ; second attendances on £2, 2s. Lecture Courses (not being Honours Half-Courses for M.A.), £1, 11s. 6d. ; third or subsequent attendances, £1, 1s. ; Lecture Courses, when fee for first attendance is less than £2, 2s., no reduction. Full Courses (being also Honours Courses for M.A.), second attendances, no reduction ; third or subsequent attendances, £2, 2s. ; second attendances on £2, 2s. Courses (being also Half-Honours Courses for M.A.), no reduction ; third or subsequent attendances, £1, 1s.

3. *Lecture Courses* not included in the curricula in Arts or Medicine: Second attendances on £3, 3s. Courses, no reduction ; third or sub-

<sup>1</sup> Fees for second or subsequent attendances, see above.

<sup>2</sup> Besides charge of 10s. for Laboratory Expenses.

<sup>3</sup> Besides Garden Fee of 5s.

<sup>4</sup> Given in alternate Summers.

<sup>5</sup> Fee for Summer Session, £6, 6s.

sequent attendances, £2, 2s. ; on £2, 2s. Courses, second attendances, no reduction ; third or subsequent attendances, £1, 1s. On Agriculture and Rural Economy, second attendance, £3, 3s. Perpetual Ticket by initial payment, £6, 6s.

4. *Courses in Engineering and Drawing.* No reduction for second or subsequent attendances.

5. *Practical Classes and Laboratory Courses.* No reduction for re-attendances.

MATRICULATION FEES, &c. See pages 27-30.

### CLASS SESSIONS.

There are Two Sessions in each year, viz. :—

I. The Winter Session, which opens on 16th October 1900, and closes on 29th March 1901. Practical Anatomy begins 1st October ; Public Health Laboratory work begins 2nd October.

The Classes meet for the last time before the Christmas Vacation on Friday, 21st December 1900, and re-assemble on Tuesday, 8th January 1901.

II. The Summer Session opens on the 1st May, and closes on the 17th of July 1901.

The Graduation Ceremonials take place on Saturday, 13th April and Saturday, 27th July 1901.

The following means are afforded for Practical Instruction:—

#### I. LABORATORIES.

PHYSICAL LABORATORY, affording Students a practical knowledge of the construction and use of physical apparatus, and the mode of conducting experimental inquiries, daily from 10 to 3, under Professor Tait.

GEOLOGICAL AND PETROLOGICAL LABORATORY, for practical instruction in the study of Minerals, Rocks, and Fossils, and the methods of plotting and drawing geological maps and sections, on Monday, Wednesday, and Friday from 2 to 4, under the Professor, assisted by J. S. Flett, M.A., M.B., C.M., D.Sc.

ENGINEERING DRAWING CLASS ROOM, daily during the Winter Session, from 10 to 2, for instruction in drawing and drawing-office routine.

THE ENGINEERING (FULTON) LABORATORY, open on fixed days during the Winter Session, for practical instruction in the processes employed by the Engineer in the Experimental Determination of the Physical and Economical Constants of Materials, Machines, and Prime Movers, and in the Practical Applications of Electricity.<sup>1</sup>

<sup>1</sup> Fees—Winter Session, £10, 10s. ; Summer Session, £6, 6s.

PRACTICAL INSTRUCTION IN OFFICE AND FIELD-WORK, daily (in alternate years), in connection with the Summer Course on Surveying, Levelling, &c., from 11 to 4.

AGRICULTURE DEPARTMENT in the Museum of Science and Art, open daily to Students attending the Agriculture Class. Excursions to farms are made on Saturdays. The leading agricultural newspapers are left for the use of Students in the Agriculture Lecture Room.

ROYAL OBSERVATORY, open to Students of Astronomy on Friday evening, from 8 P.M.

ROYAL BOTANIC GARDEN LABORATORY at the ROYAL BOTANIC GARDEN, open daily for the practical study of plants and for research, under the Professor, assisted by J. H. Burrage, M.A., and A. W. Borthwick, B.Sc.

PHYSIOLOGICAL LABORATORY, for Physiological Research, and the study of Practical Physiology, open daily, under the Professor, assisted by T. H. Milroy, M.D., B.Sc.; P. T. Herring, M.D.; John Malcolm, M.D.; and Sutherland Simpson, M.B., Ch.B., B.Sc.

The CHEMICAL LABORATORIES (distinct from the Practical Chemistry Class Room) have accommodation for forty Students. They contain the necessary equipment for a complete course of instruction in the various branches of Chemical Work and for Research. The instruction given includes Complex Qualitative Analysis, Quantitative, Inorganic, and Organic Analysis (with special courses in Gas Analysis, Assaying, &c.), and Chemical Preparations. The training is suited not only for Students studying for Science and Arts Degrees, or for the Examinations of the Institute of Chemistry, but also for persons desiring to qualify themselves as Analysts, Technical Chemists, &c.

The Laboratories<sup>1</sup> are open from 9.30 to 4.30 daily, during the Winter and Summer Sessions, and are under the charge of Professor Crum Brown, assisted by Leonard Dobbin, Ph.D.; Hugh Marshall, D.Sc.; J. P. Longstaff; and James Kerr, B.Sc.

DISSECTING ROOMS, open daily under Professor Sir William Turner, assisted by David Hepburn, M.D.; E. J. H. Fraser, M.B., C.M.; David Waterston, M.B., C.M.; C. M. Cooper, M.B., Ch.B.; and other assistants. Opens 1st October 1900 and 1st May 1901.

NATURAL HISTORY LABORATORIES, for research and for study of the structure and development of Invertebrate and Vertebrate forms, open daily, under the Professor, assisted by J. Beard, D.Sc.; and Gregg Wilson, M.A., D.Sc.<sup>2</sup>

<sup>1</sup> Fees for Chemical Laboratory.—*Whole-day*—Winter Session, £10, 10s.; or Oct.-Dec., or Jan.-March, or Summer Session, £5, 5s. *Half-day*—Winter Session, £6, 6s.; Oct.-Dec., or Jan.-March, or Summer Session, £3, 3s. Preference will be given to Students in the above order. Students who are not Matriculated may attend the Chemical Laboratory on payment of the entrance fee of 5s. in addition to the Laboratory fees.

<sup>2</sup> Fees—Winter Session, £10, 10s.; Summer Session, £6, 6s

PUBLIC HEALTH LABORATORY, for Laboratory Work for Candidates for qualifications in Public Health and for Hygienic investigation, comprising a Chemical, a Bacteriological, and a Meteorological Department, open daily, under the Professor, assisted by J. Buchanan Young, M.B., D.Sc. Opens 2nd October 1900 and 1st May 1901.<sup>1</sup>

II. MUSEUMS. See pages 55-57.

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## Courses of Lectures.

1900-1901.

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### I.—PURE SCIENCE.

#### I. MATHEMATICS.

PROFESSOR CHRYSTAL.

CHARLES TWEEDIE, M.A., B.Sc., *Lecturer.*

For Synopses of Lectures, see under Faculty of Arts.

#### II. ZOOLOGY, including COMPARATIVE ANATOMY.

PROFESSOR EWART.

For Synopses of Lectures on Zoology and of Courses on Practical Zoology, see under Faculty of Medicine.

#### COMPARATIVE EMBRYOLOGY.

J. BEARD, D.Sc., *Lecturer.*

The Course consists of Lectures and Practical Work.

*Lectures.*—The following subjects will be dealt with:—Conjugation and sexual reproduction, the maturation, &c., of the egg and spermatozoan, the modes of formation of the germinal layers in a series of selected types, the development of Scyllium or Raja, Amphioxus and Rana as a basis for general Vertebrate Embryology, the organogeny of the chief systems of organs in the Vertebrata, the evolution and comparative development of the placenta. A few lectures will be given on the general principles and theory of Comparative Embryology, the recapitulation theory, and the nature of larval forms.

*Practical Work.*—Each member of the Class will have an

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<sup>1</sup> Fees—Winter Session, £10, 10s.; Summer Session, £6, 6s.

opportunity of preparing for himself and studying a series of preparations to illustrate the development of *Salmo*, *Rana*, *Gallus*, and other forms. In addition, an extensive series of preparations of *Raja*, *Scyllium*, *Torpedo*, and *Lacerta*, &c., and of certain Invertebrate forms will be available.

In the Laboratory Work members of the Class may confine their studies to one particular type, or to some selected branch, such as Mammalian Embryology.

*Books for reference.*—Marshall's "Vertebrate Embryology"; Hertwig's "Embryology of Man and the Higher Vertebrates"; Korschelt und Heider's "Vergleichende Embryologie der Wirbellosenthiere"; Willey's "Amphioxus"; and E. B. Wilson's "The Cell."

#### MORPHOLOGY OF THE VERTEBRATA.

A Course of twenty-five Lectures on the Morphology of the Vertebrata; the nervous system and its sense organs and the genito-urinary system receiving particular attention.

As far as time permits the question as to the morphological nature of the vertebrate head and skeleton will be discussed.

#### III. BOTANY.

PROFESSOR BAYLEY BALFOUR.

*Winter Session, 1900.*

*Lectures.*—A Course of advanced lectures and advanced work in the Botanical Laboratory is provided for.

*Summer Session, 1901.*

This Course is the same as for Students of Medicine with additional Laboratory work.

#### PLANT PHYSIOLOGY.

A. W. BORTHWICK, B.Sc., *Lecturer.*

A Course of Lectures and Practical Demonstrations will be given at the Royal Botanic Garden in the Winter and the Summer Sessions.

#### IV. NATURAL PHILOSOPHY.

PROFESSOR TAIT.

C. G. KNOTT, D.Sc., *Lecturer on Applied Mathematics.*



ELEMENTARY DYNAMICS.

C. G. KNOTT, D.Sc., *Lecturer.*

ADVANCED EXPERIMENTAL PHYSICS.

WILLIAM PEDDIE, D.Sc., *Lecturer.*

For Synopses of Courses, see under Faculty of Arts.

V. CHEMISTRY.

PROFESSOR CRUM BROWN.

For Synopses of Courses, see under Faculty of Medicine.

ORGANIC CHEMISTRY.

This Class meets daily during the Summer Session at 1 P.M.

ADVANCED CHEMISTRY.

Course of twenty-five Lectures to begin after Christmas. Subject for 1900-1901, "Selected Chapters in Inorganic Chemistry."

CHEMICAL THEORY.

LEONARD DOBBIN, PH.D., *Lecturer.*

The subjects will vary from year to year. They will include historical matters, and discussions of the more important chemical theories which are at present productive or which have been superseded. The Class will meet on Mondays and Fridays at 10 A.M., during the Summer Session. The Subject proposed for 1901 is, "History of the Development of Organic Chemistry."—Fee, £1, 1s.

MINERALOGY AND CRYSTALLOGRAPHY (ADVANCED).

HUGH MARSHALL, D.Sc., *Lecturer.*

Daily, at 9 A.M., beginning Wednesday, 1st May. Fee, £2, 2s.

The earlier part of the Course will be on Physical Crystallography generally, including the optical and other properties of crystalline substances and the geometrical properties of crystals. The latter section will deal specially with minerals, with those parts of Systematic Mineralogy not included in the earlier section, and with the Descriptive Mineralogy of minerals of most import-

ance from a Geological or a Chemical point of view. Some of the meetings will be devoted to Elementary Practical Work and Demonstrations.

#### VI. ASTRONOMY.

PROFESSOR COPELAND.

For Synopsis, see under Faculty of Arts.

An Advanced Practical Course, consisting of thirty meetings of two hours each, may be held in Summer.

#### PRACTICAL ASTRONOMY (ADVANCED SUMMER CLASS).

This Class will only be held if a sufficient number of Students present themselves. It will meet at the Royal Observatory, Blackford Hill, on Tuesdays and Fridays in the Summer Session. Evening hours will also be arranged to suit the progress of the work.

#### VII. HUMAN ANATOMY, including ANTHROPOLOGY.

PROFESSOR SIR WILLIAM TURNER.

For full Synopsis of Lectures on Anatomy and for Course of Practical Anatomy, see under Faculty of Medicine.

#### ANTHROPOLOGY.

If a sufficient number of Students express their intention of selecting Human Anatomy, including Anthropology, as a subject for the Degree of B.Sc., the Professor of Anatomy will deliver, during the Summer Session, a course of twenty-five Lectures on Physical Anthropology. Fee, £2, 2s. ; or for Students who take the Summer Course of Practical Anatomy, £1, 1s.

#### VIII. PHYSIOLOGY.

PROFESSOR SCHÄFER.

For Synopsis of Lectures, and Elementary Courses of Practical Physiology and Histology, see under Faculty of Medicine.

#### ADVANCED PRACTICAL PHYSIOLOGY.

This Course is devoted to Experimental and Chemical Physiology and Histology of a more advanced nature than that of the ordinary course of Practical Physiology. It is assumed that

those who propose attending this Course have already attended the Elementary Course (*or*, a similar Course elsewhere) and the Lectures. The Course is divided into three parts, viz., (1) Experimental, (2) Chemical, (3) Histological. The Experimental and Chemical parts are taken in the later part of the Winter Session, and occupy six hours a week, beginning about the middle of January. The Histological part is taken in the Summer Session, and occupies about four hours a week.

This Course is adapted for those preparing for examinations in Natural Science and Honours Examinations in Physiology, and for those who may afterwards desire to prosecute Physiological Research.

## IX. GEOLOGY, including MINERALOGY.

PROFESSOR GEIKIE.

### *Winter Course.*

I. CLASS OF GEOLOGY AND MINERALOGY.—Daily, at 4 o'clock. The Course embraces :—

1. *The History of Geology*—An outline of the growth of the science from the time of the early cosmogonies downwards.

2. *Dynamical Geology*—A discussion of the nature and causes of geological changes effected on the surface and within the interior of the earth.

3. *Mineralogy*—An account of the physical and chemical characters of minerals, and a description of some of the more important and typical species in the various mineral groups.

4. *Petrology*—A description of the various families of rocks.

5. *Structural Geology*—A description of the geological structure and relations of rock-masses to each other.

6. *Palæontological Geology*—An account of the nature and use of fossils in geological inquiry.

7. *Palæontology*—A description of the more important types of life represented by fossils.

8. *Historical Geology*—The history of the successive geological periods.

9. *Physiographical Geology*—An inquiry into the origin of the present outlines of the earth's surface.

*Text-Books*—"Outlines of Geology," by the Professor (*Stanford*); Hatch's "Mineralogy" (*Whittaker*); Hatch's "Petrology" (*Sonnenschein*) or Harker's "Petrology for Students" (*Cambridge University Press*). More detailed works of reference, most of which are in the College Reading-Room, are recommended for each branch of the lectures.

II. CLASS OF PRACTICAL MINERALOGY AND GEOLOGY.—Two hours (2 to 4), on Mondays, Wednesdays and Fridays, under superintendence of the Professor. This Course, up to Christmas, is a half-Course qualifying for Graduation in Arts.

III. FIELD DEMONSTRATIONS.—Short excursions are made on Saturdays to places of geological interest near Edinburgh, when the Class Lectures are illustrated by demonstrations in the field, and practical instruction is given in Geological Surveying.

These Field Demonstrations are open to Students attending either the Class Lectures or the Practical Class.

Adjoining the Class-room is a small Museum exhibiting the characters of minerals and rocks, and the typical fossils of the different geological systems.

### *Summer Course.*

The following subjects are dealt with in this Course:—

1. *Petrology*.—(The lectures are illustrated by demonstrations in the Laboratory and the Class Museum.)
2. *Palæontological Geology*.—(Class Museum, see above.)
3. *Structural Geology*.—Under this head *Dynamical Geology* is also discussed in more or less detail.
4. *Geological Surveying*.
5. *Economic Geology: application of Geology to Mining, Engineering, Agriculture, Public Health, &c.*
6. *Physiographical Geology*.

*Structural and Field Geology* form the principal portion of this Course, but no previous knowledge of Geology is required of the student—the elementary principles of the science being set forth both in the lecture-room and the field. The Class meets on Mondays, Wednesdays, and Fridays at 4, and a

series of practical lessons on the study of rocks will be given at the beginning of the Session on Tuesdays and Thursdays at the same hour. The Saturdays are devoted to field demonstrations, when the mode of geological mapping and section drawing is explained and illustrated. This Course is a Half-Course qualifying for Graduation in Arts.

PETROLOGY.

J. S. FLETT, M.A., B.SC., M.B., C.M., *Lecturer.*

Lectures and Practical Work, on Mondays, Wednesdays, and Fridays, from 10 to 12, in Summer.

II.—APPLIED SCIENCE.

I.—ENGINEERING.

I. MATHEMATICS.

PROFESSOR CHRYSTAL.

CHARLES TWEEDIE, M.A., B.SC., *Lecturer.*

For Synopses of Lectures, see under Faculty of Arts.

II. NATURAL PHILOSOPHY.

PROFESSOR TAIT.

For Synopsis of Lectures, see under Faculty of Arts.

III. CHEMISTRY.

PROFESSOR CRUM BROWN.

For Synopsis of Courses, see under Faculty of Medicine.

IV. DRAWING AND MENSURATION.

W. HUME KERR, M.A., B.SC., *Lecturer.*

CLASS OF DRAWING (GEOMETRICAL, ENGINEERING, AND ARCHITECTURAL), AND OF MENSURATION.—Students may attend at any time between 10 A.M. and 2 P.M. each day.

All Students are recommended to take the Classes in Engineering and Drawing together.

The Class in Drawing may also be attended with advantage by those who propose subsequently to attend the Class in Engineering, as Students should be able to readily understand mechanical diagrams, and to apply the graphic methods of

calculation frequently employed by Engineers. The Class will be found useful also to those who propose to become architects or surveyors.

A course of instruction has been specially arranged to meet the requirements for the Degree of B.Sc. in Public Health. [See under Public Health, p. 223].

#### SYNOPSIS.

##### *Ordinary Class.*

The work is arranged so as to form a Two Years' Course, and will consist of Lectures and Practical Instruction in Drawing. The Courses are described as "Junior" and "Senior"; and, though not imperative, it is desirable that they should be taken in their natural order.

*Junior Course*:—Plane Geometrical Drawing—Construction of Curves—Design of Toothed Wheels and Gearing—Graphic Calculation and Graphic Methods of determining Stress in Structures—*Loci* of Points in Link-work—Diagrams of Velocity, Acceleration, Work, and Energy.

*Senior Course*:—Solid Geometry—Interpenetration and Development of Surfaces and Solids—Isometric Projection—Perspective—Structural and Machine Drawing—Rough Sketching of Machines, &c., and the Preparation therefrom of Working Drawings—Design of Structures in Masonry, Timber, Steel, and Iron,—Roofs, Bridges, Skew Arches, &c.—General Machine Design.—(Course for Session 1900-1901.)

#### V. ENGINEERING.

##### PROFESSOR ARMSTRONG.

##### *Winter Session.*

I. CLASS OF ENGINEERING.—The object of the Course is to show the practical application of Science to some branches of Engineering. The Lectures, combined with Laboratory instruction, form a Two Years' Course, so arranged that Students can enter the Class at the beginning of either year. The following are the subdivisions of the complete Course, a part only of each subdivision being dealt with each year:—



1. Applied Mechanics ; 2. One Branch of Civil Engineering ; 3. One Branch of Mechanical Engineering ; 4. Examples of the Application of Machinery to Manufacturing Purposes ; 5. Laboratory instruction in connection with one of the foregoing.

Synopsis of the Course for the present Session :—

A.

1. Equilibrium and Stability of Frames, Ribs, and Linear Arches.
2. Application of Mechanical Principles to Combined Structures, especially to Roofs and Bridges.
3. Nature, Fitness, and Strength of Structural Materials Stretching, Crushing, Bending, and Twisting.
4. Earthwork and Masonry ; Retaining Walls and Masonry Arches.
5. Locomotive Engines.
6. Machine Design.

B.

7. Testing Machines and Apparatus, and the Testing of Structural Materials, with Laboratory Demonstrations under the superintendence of the Professor.

Four Examinations are held during the Session ; and each week, unless there be an Examination, a Problem Paper is set to be worked at home. The questions proposed are such as are met with in the practice of Engineering ; and the answers, being returned to the Students annotated and corrected, form a body of Examples for subsequent reference.

There is also a Tutorial Class held weekly at which the questions set in the Problem Paper of the previous week are discussed and explained.

Engineering Works and Factories are, from time to time, visited by the Class, under the direction of the Professor.

The attention of Students proposing to follow the foregoing Course is specially directed to the following Class (II.), one attendance at which, though optional, is strongly recommended.

II. ADDITIONAL CLASS.—A short preliminary course in General Mechanics is given, *without additional fee*, for the benefit of those entering the Class of Systematic Engineering with an imperfect knowledge of Mechanical principles. This Class, taught by an Assistant, will meet five days a week for about a month, commencing on the same day as the General Science Classes open.

III. A COURSE OF INSTRUCTION IN SANITARY ENGINEERING AND BUILDING CONSTRUCTION, designed for Candidates for Degrees in Public Health, and consisting of about fifty Lectures. See under Public Health, p. 223.

IV. THE FULTON ENGINEERING LABORATORY.—Students here receive practical instruction in the processes employed by the Engineer in the experimental determination of the physical and economical constants of materials, machines, and prime movers, and in the practical application of electricity.

#### *Summer Session.*

V. ENGINEERING FIELD - WORK.—A course of Practical Instruction in Surveying, Levelling, Setting Out, and Calculation of Quantities, is given in alternate years.

The Course consists of lectures, and of practical work, as undertaken in the field and in the office, and occupies the whole of each day for about three weeks. The hours of instruction thus correspond in number to an ordinary Course extending over a much longer period. The Class will be next held in summer 1901.

#### *Course of Study.*

The following Course is recommended for Students preparing for the Degree of B.Sc. in Engineering :—

*1st Year.* — Mathematics [Intermediate Honours Class (Winter), or Advanced Class (Summer)], Geometrical Drawing and Graphics, Chemistry (or Natural Philosophy).

*2nd Year.* — Engineering and Natural Philosophy (or Chemistry), Laboratory (Chemical or Physical), Engineering, Engineering and Mechanical Drawing.

3rd Year.—Natural Philosophy (Advanced Class), Engineering, Optional Course.

In some cases a modification of the above may be desirable.

The Engineering Field-Work Class may be taken in whichever of the Summer Sessions it is held.

## VI. DYNAMICS.

C. G. KNOTT, D.Sc., *Lecturer.*

As a preparation for the Course described below, Students of Engineering are advised to take the Summer Half-Course on *Elementary Dynamics*, either before or after passing the First B.Sc. Examination in Natural Philosophy. For Synopsis, see Courses in Faculty of Arts.

The Advanced Science Course on Dynamics, of fifty Lectures, by the Lecturer on Applied Mathematics, is adapted for Engineering Students. In the treatment of the subject practical applications and, in particular, graphical methods of solution will receive attention; while the simpler processes only of the differential and integral calculus will be used. The Course will include the Kinematics, Kinetics, and Statics, of particles, rigid solids, flexible cords, and perfect fluids; and the more elementary parts of Strains and Elasticity.

*Books recommended.*—The simpler sections of Tait's "*Dynamics*"; Rankine's *Applied Mechanics*.

## VII. GEOLOGY AND MINERALOGY.

PROFESSOR JAMES GEIKIE.

For Synopsis of Lectures, see Summer Course under Pure Science.

## III.—PUBLIC HEALTH.

### I. LABORATORY WORK.

PROFESSOR HUNTER STEWART.

#### (I.) PRELIMINARY WORK.

Exercises in weighing, each worker testing the accuracy of the graduation of his pipettes and burettes by weighing. Taking specific gravities of solids and liquids.

## (II.) CHEMICAL AND PHYSICAL WORK.

**AIR.**—Temperature, Maximum and Minimum Thermometers—Pressure—Reading of Barometer, and correction for Elevation and Temperature—Moisture—Dew Point by Daniell's Hygrometer and Wet and Dry Bulb Thermometers—Determination of Absolute and Relative Humidity—Quantitative Determination of Carbonic Acid and Ammonia.

**SOIL.**—Determination of Water Capacity—Porosity and Permeability of Sand and Loamy Soil—Determination of Ammonia and Organic Nitrogen in Soil, and of Carbonic Acid in Ground Air—Use of Earth Thermometers.

**WATER.**—Total Solid Residue and Quantitative Estimation of Lime, Magnesia, and Sulphuric Acid in a Water Residue—Chlorides—Hardness—Lead in Water (colorimetrically)—Organic Matter in terms of "Albuminoid Ammonia," Organic Carbon and Nitrogen, and as "Oxygen required"—Nitrates and Nitrites by conversion into Nitric Oxide and Measurement of the Gas—Nitrites by Gries' Method.

*Gases in Water.*—Determination of Total Volume of Gases and of the Nitrogen and Oxygen—Estimation of Oxygen by Manganous Chloride.

*Sewage.*—Composition of Sewage and of Effluents from Irrigation Works.

**FOODS.**—*Cereals, &c.*—Estimation of Albuminoids by Kjeldahl's Method, Fat by Extraction, Starch by conversion into Sugar.

*Sugar.*—(1) By Fehling's Solution volumetrically, and in Terms of Weight of Copper Oxide reduced (2) by Polarimeter.

*Milk.*—Estimation of Albumen, Fat, Sugar, and Salts by Ritthausen's Method, and by Hoppe-Seyler's Method—Specific Gravity and Reaction of Milk.

*Butter and Butterine.*—Moisture—Salt—Casein—Determination of Nature of the Fat in terms of Volatile and Fixed Acids.

*Tea and Coffee.*—Moisture, Extract, Ash.

*Cocoa*.—Moisture, Fat, Ash.

*Wine, Beer, &c.*—Extract, Alcohol, Sugar, and Acidity.

*Lime Juice and Lime Juice Cordial*.—Extract, Ash, Sugar, Acidity.

DISINFECTANTS. — Estimation of available Chlorine in Bleaching Powder—Determination of Comparative Value of different Disinfectants by lethal action on Microbes.

VENTILATION.—Determination of the amount of moisture in an occupied room. Each worker reports at least once on the state of the air of a room, ventilated by extraction, in terms of the amount of Carbonic Acid present, and also of the amount of air renewal, measured by the Anemometer.

The foregoing work is done by each worker, and in each subject his results must satisfy the teacher before he can leave it. During this part of the Course, Laboratory Lectures are given twice a week, when the rationale of the methods and the interpretation of the results are discussed.

### (III.) BACTERIOLOGICAL.

The subject of the Laboratory Lectures during this part of the Course consists of a consideration of:—

The Morphology and Classification of the Micro-organisms—Sterilization by Dry and Moist Heat—Disinfection—Methods of Cultivation—Methods of obtaining Pure Cultures in Solid and Liquid Media—Anærobic Micro-organisms, and the Methods for their Culture—Bacterial Products, Ptomaines and Antitoxins—Micro-organisms in Water, Air, and Soil—Removal of Micro-organisms from Water (1) on the large scale by Sand Filtration—Construction and working of Filter Beds—Theory of Sand Filtration—(2) On the small scale by Pasteur-Chamberland, Berkefeld, and other Filters—Micro-organisms in Milk—Sterilization of Milk on small and large scale—Pasteurization of Milk.

Practical work by each worker—Sterilizing all glass apparatus, *e.g.* tubes, dishes, pipettes, &c.

Preparation in all stages of the following Culture Media—

Nutrient Broth, Jelly, and Agar Agar, Potato Gelatine, Worts Gelatine, Glycerine Agar, Potatoes in Roux's Tubes.

From a mixture of several Micro-organisms to get a pure Culture of *one*, by (1) method of dilution in liquid medium, and (2) by plate cultivation on a solid medium.

Cultivation, staining, and microscopical examination of :—

*Mould Fungi*.—Penicilium—Aspergillus—Mucor.

*Yeast Fungi*.—Yeast—Mycoderma Vini.

*Fission Fungi*.—The ordinary bacteria found in Air, Water, Soil, or Milk, *e.g.* Bacillus Subtilis, Mycoides, Megaterium, Proteus, Lactic Acid, Prodigiosus, Micrococcus Aurantiacus, Ureæ, &c.; and also the following pathogenic forms—Tubercle, Diphtheria, Anthrax, Typhoid, Tetanus, Cholera, Plague, Coli Communis, and Enteritidis.

Cultivation of Micro-organisms in Air by Petri's Method, in Soil (from borings at different depths), and in Water. Daily for a week each worker bacteriologically examines the Edinburgh Water Supply. The filter beds are visited, and samples of the water both before and after filtration are bacteriologically examined.

## II. PHYSICS.

PROFESSOR TAIT.

CARGILL G. KNOTT, D.Sc., *Lecturer*.

For Synopses, see under Faculties of Arts and Medicine.

## III. GEOLOGY.

PROFESSOR GEIKIE.

For Synopses of Courses, see under Pure Science.

## IV. PUBLIC HEALTH AND SANITARY SCIENCE.

PROFESSOR HUNTER STEWART.

1. Sanitary Law, specially the Public Health Act (Scotland), 1897—The English Acts—Notification of Infectious Diseases—Housing of the Working Classes—Factories—Cowsheds and Dairies—and Nuisance removal Acts, &c., Bye-laws.

2. Vital Statistics—Census, how determined—Death Rates crude, corrected and standard—Birth and Marriage Rates—



Life Tables—Zymotic Death Rate—Age Rate, Case Mortality—Variations in Case Incidence and Case Mortality—Value of Vital Statistics in Public Health Work—Mortality as affected by Occupation—Sickness Rates, &c.

3. *Epidemiology*—Medicine in relation to Public Health—Immunity—Prophylaxis—Vaccination—Geographical distribution and etiology of the infectious diseases—Diseases of Animals communicable to man—Food Poisoning, Botulismus—Climates as determined by prevalent winds, temperature, moisture, altitude, and soil—Tropical, Temperate, and Arctic Climates.

4. Practical Sanitation—Water Supplies—Infectious Diseases—Hospitals—Disinfection of clothing, dwellings, and discharges from sick—Slaughter-houses—Meat inspection—Ventilation—Sewage disposal—Hygiene of Schools—Disposal of the dead.

#### V. SANITARY ENGINEERING, BUILDING CONSTRUCTION, ETC.

PROFESSOR ARMSTRONG.

- (1) Site, environment, and construction of Dwellings.
- (2) Water supply and distribution.
- (3) Collection, treatment and disposal of Sewage and other Refuse.
- (4) Air Supply, Ventilation and Warming.
- (5) General design, with structural and mechanical details, of Sanitary Works, Municipal and Domestic.
- (6) Design and construction of Hospitals.
- (7) Nature, strength, and fitness of structural materials employed in Sanitary Works.

#### VI. INSTRUCTION IN MENSURATION AND DRAWING.

W. HUME KERR, M.A., B.Sc., *Lecturer*.

The Course will include the following subjects:—Scales, their Construction and Uses—Estimation of Areas and Volumes—Elements of Plane and Solid Geometry, and their application to the making of Structural Drawings from Models and Figured Sketches—The use of the Slide Rule and other Calculating instruments—Plotting of Land Surveys and Sections.

#### VII. CLINICAL INSTRUCTION regarding Fevers and Infectious Diseases during three months in a recognised Hospital.

## IV.—AGRICULTURE.

## 1a. MATHEMATICS.

PROFESSOR CHRYSTAL.

CHARLES TWEEDIE, M.A., B.Sc., *Lecturer.*

Senior Classes, as for M.A. Synopses, see Faculty of Arts.

## 1b. ZOOLOGY.

PROFESSOR EWART.

For Synopsis of Lectures, see under Faculty of Medicine.

## 1c. BOTANY.

PROFESSOR BALFOUR.

For Synopsis of Lectures, see under Faculty of Medicine.

## II. NATURAL PHILOSOPHY.

PROFESSOR TAIT.

For Synopsis of Lectures, see under Faculty of Arts.

## III. CHEMISTRY.

PROFESSOR CRUM BROWN.

For Synopsis of Lectures, see under Faculty of Medicine.

## IV. AGRICULTURE AND RURAL ECONOMY.

PROFESSOR WALLACE.

1. *Definition of Agriculture.*—Aid given by the Allied Sciences.
2. *Surface Geology.*—Formation and Classification of Soils—their Physical and Chemical Properties. Importance of Organic Nitrogen. Fixation of free Nitrogen. Indications of good or bad Soils—Methods of Management and Improvement.
3. *Drainage and Cultivation.*—Practice—Advantages of Drainage—Irrigation—Wet-Warping—Mixing or Top-Dressing—Claying—Marling—Chalking—Liming—Paring and Burning—Clay-Burning. The Effect on Soils of Cultivation and the Growth of Plants.
4. *Implements and Machines of the Farm.*—Importance of their proper Construction and careful Management.
5. *Steam Cultivation.*—Advantages and Disadvantages.
6. *Motive Powers Employed on the Farm.*—1st, Man; 2nd,

Horse ; 3rd, Mechanical Powers (Water, Wind, Steam)—their Values and Advantages.

7. *Farm Servants*.—Labour and Wages—Day-work and Piece-work. Detailed and total costs of Horse and Hand Labour.

8. *Importance of Rotations*.—Different Rotations and reasons why they are adopted—Systems of Farming.

9. *Our Farm Crops* (including Grain, Root, Forage, and Hay Crops).—Selection and Cultivation. Prevention of Diseases.

10. *Identification of Grasses and Valuable Pasture Plants*.—Their Characteristics and Habits—Detection of Adulterations of Seeds—Regulations to protect Farmers in buying Seeds.

11. *The Management of Permanent Pasture*.—Proper Methods of making new Pasture—its After-treatment.

12. *Weeds in Pastures* and Means of Destroying them.

13. *Silage and the System of Ensilage*.—Its Advantages, &c.—Its Suitability and Unsuitability according to Locality.

14. *Manures*.—Farm-yard Manure—Mixing, Storing, and Application—great advantage as a General Manure. Special Manures and so-called Artificials—Times and Methods of their Application. Utilization of Liquid Manure and Town Sewage.

15. *Buildings and Fences*.—Construction of Fences—General Arrangement of Farm-Buildings—best Flooring and Inside Plans and Dimensions of Byres, Cattle-Sheds, Stables, &c.—Covered Yards—Ventilation—Drainage.

16. *Live-Stock*.—Cattle, Pigs, Horses, Sheep, Poultry—Breeds of each, and suitability to Local Conditions—"Principles of Breeding." Feeding and Management—Mixtures of Food. Cost of Producing a Stone of Beef, Mutton, and Pork, showing Profit.

17. *Dairying in all its Branches*, including the suitability of surrounding Conditions—Classes of Dairy Stock, and their Management—Treatment of Milk, its Sale, its Manufacture into Cheese, Butter, &c.

18. *Feeding Stuffs*.—Suitability of Common Food Substances to different Classes of Farm Stock—Purchase and disposal of the same—their Manurial Residues.

*Text-Books.*—Wallace's "Farm Live Stock of Great Britain," M'Connell's "Note-Book of Agricultural Facts and Figures," Fream's "Elements of Agriculture," "Rothamsted Experiments," and "Soils and their Properties."

Students are invited to consult the Professor at the beginning of the Session as to their plan of work.

Periodical visits will be made to suitable Farms. A Medal may be given for the best report on these excursions.

## V. AGRICULTURAL CHEMISTRY.

A. PEEBLES AITKEN, D.Sc., *Lecturer.*

The Course comprises Lectures, Demonstrations, and Laboratory work :—

1. *The Atmosphere.*—The relation of its constituents to plant life—rain, dew, fog, and hoar frost, their causes and effects.

2. *Soils.*—Origin and formation—physical and chemical processes included in the term "weathering"—inorganic and organic constituents of soils—essential elements of fertility—work of living organisms in the soil—decay and putrefaction of vegetable matter—formation of humus—nitrification—relation of soils to air and moisture—capillarity—absorption of salts by soils—lysimetry—circumstances affecting the composition of drainage water—amelioration of soils by physical and chemical means—classification, investigation, and analysis of soils.

3. *Plants.*—Mineral and organic constituents of plants—their transformations and translocations during the life of plants from germination to maturity—respiration, transpiration, and assimilation—plant nutrition, and the specific effects of nutritive substances upon the growth and development of plants—water culture and other methods of investigating plant nutrition—meteorological conditions affecting the health and vigour of plants—sources whence plants derive their nitrogenous constituents—symbiosis—analysis of vegetable substances.

4. *Manures.*—Their classification, composition, and characteristics—specific action and suitability for different soils, climates, and crops—economic use, and the principles regulating their application—methods of conducting manurial experi-

ments—analysis and investigation of manures—valuation of manures, and of unexhausted fertility.

5. *Crops*.—Their composition and classification—fodder crops, their relative value as food—external conditions affecting their nutritive value, preservation, and digestibility—theory of rotations—crop residues and their relation to the fertility of the soil.

6. *Animal Nutrition*.—Chief constituents of the animal body—respiration—digestion—influence of diet on the growth and health of animals—laws of flesh and fat production, and relation of food to work—nutrient ratio as a guide to feeding—animal waste—relation of food to manure—external conditions affecting the health and growth of animals—preparation of fodder—analysis and investigation of feeding stuffs.

7. *Dairy Produce*.—Composition of milk—its physical characters—diseases and sophistications to which it is liable—characteristics of its ingredients—its analysis—butter and cheese—th composition, sophistication, and analysis—scientific aspects of dairy management.

## VI. GEOLOGY.

PROFESSOR GEIKIE.

For Summer and Winter Courses, see under Pure Science.

## VII. VETERINARY HYGIENE.

Lectures of recognised teachers of the subject.

## VIII. AGRICULTURAL ENTOMOLOGY.

*Course of twenty Lectures and Laboratory Demonstrations.*

W. FREAM, LL.D., B.SC., *Steven Lecturer.*

*(Free to Present and Past Students of the Agriculture Class.)*

Position of Insects in the Animal Kingdom.

Morphology and physiology of Insects, particularly in so far as such knowledge is useful in baffling attacks of insect pests. Structural modifications of the mouth, legs, and wings.

Life-history of Insects.

General principle that where the life history involves a series or cycle of changes, the measures of suppression should be directed against the weakest link in the chain. Illustrations.

Methods of insect attack, and enormous losses consequent thereon. Incidentally:—(a) Stage in the life-history of the insect at which it becomes actively injurious. (b) Period in the growth of the crop when insect injury begins. (c) Organs of the plant which are attacked.

Methods of *prevention*, as distinguished from *remedy*.

*General* methods of prevention or remedy, as distinguished from *special*. The former are, in the main, agricultural. The latter usually involve the application of specific insecticides, or the subjection of the crop to treatment distinct from ordinary agricultural operations.

Insecticides: composition and properties of the more important. Methods of application.

Mechanical appliances for the distribution of insecticides.

Inter-relationship of economic entomology and systematic botany.

Natural enemies of insects; particularly (a) insectivorous mammals and birds, (b) other insects, (c) parasites.

Classification of insects, directed especially to the means of identifying injurious insects in their several stages.

Characters of the natural orders of insects illustrated by genera which furnish destructive species.

Special discussion of the natural orders Coleoptera, Hymenoptera, Lepidoptera, Hemiptera, and Diptera.

Convenient groupings of insects—(a) According to crop attacked; (b) According to mode of attack.

Detailed discussion of insects injurious to crops, to forest and fruit trees, and to live stock in Britain, with methods of prevention and remedy:—*inter alia*—Wireworms, weevils, turnip-flies, bark beetles, thrips, saw-flies, sirices, surface-caterpillars, winter moths, codlin-moths, goat-moths, leopard-moths, magpie-moths, cabbage butterflies, aphides, scale-insects, mangel-flies, cabbage-flies, onion-flies, Hessian flies, wheat-midges, gout-flies, frit-flies, celery-flies, leather-jackets, ox-warble-flies, sheep's-nostril,



flies, gad-flies, forest-flies, sheep-louse flies, &c. Other pests, outside the class Insecta:—as millepedes, arachnids, eel-worms.

Present position of Agricultural Entomology in Britain, &c., and remarkable advances made during recent years. The course is profusely illustrated by carefully prepared natural specimens, the characters of which are demonstrated by the Lecturer. The instruction is further facilitated by a unique set of special coloured diagrams, from the pencil of Miss Ormerod.

#### IX. ECONOMIC SCIENCE AS APPLIED TO AGRICULTURE.

PROFESSOR NICHOLSON.

Lectures up to Christmas, see under Faculty of Arts.

#### X. (a) FORESTRY.

COLONEL BAILEY, *Lecturer.*

Five days a week, at 10 A.M., during Winter.

1. *Principles of Sylviculture.*—On the general lines of Dr Schlich's "Manual of Forestry," vol. i.

2. *Formation and Tending of Woods.*—On the general lines of Dr Schlich's "Manual of Forestry," vol. ii.

3. *Protection of Standing Woods.*—Draining; fencing; cold winds and storms; fires; mammals and birds; insects; diseases; weeds; frost and drought; rain, hail, snow and rime; wounds.

4. *Timber.*—Its structure, characteristics, and identification; relative form and size of stem, branches and roots; physical properties; seasoning; defects and unsoundness; durability.

5. *Utilisation of Produce.*—Uses of wood; felling; conversion; measurement and sale; transport; harvesting of bark; fodder, fruits, and litter; impregnation; charcoal.

6. *Working Plans.*—General principles.

7. *Uses and Effects of Forests.*—Direct uses; indirect effects—effects on temperature and moisture, mechanical effects.

8. *Forestry in Scotland.*—General considerations; the financial question.

## X. (b) EXPERIMENTAL PHYSICS.

PROFESSOR TAIT.

Full Laboratory Course, see under Faculty of Arts.

## X. (c) ENGINEERING.

PROFESSOR ARMSTRONG.

See Winter Course, under Graduation in Engineering.

## XI. ENGINEERING FIELD WORK.

PROFESSOR ARMSTRONG.

See Summer Course, under Graduation in Engineering.

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## Graduation in Science.

## I.—PURE SCIENCE.

REGULATIONS AND CURRICULA FOR DEGREES IN  
PURE SCIENCE.

*Candidates who began attendance on qualifying Science Classes before 1st October 1892, are referred to the CALENDAR for 1895-96 or previous Calendars.*

*N.B.—Figures within brackets refer to the Sections of Ordinance No. 12.*

[1.] Two Degrees in Science are conferred by the University of Edinburgh, viz.:—Bachelor of Science (B.Sc.) and Doctor of Science (D.Sc.). These degrees are given in Pure Science and in Applied Science.

## I.—PRELIMINARY EXAMINATION.

The Preliminary Examinations in General Education are held in the Examination Hall in the University, in autumn and spring. (Time-Table, pages 264-266.)

\* Candidates may obtain Schedules at the Matriculation Office on and after 10th September 1900 and on and after 15th February 1901. The Schedules must be completed and lodged along with the Fees not later than 19th September 1900 and 1st March 1901 for the Autumn and Spring Examinations respectively.

Fee, 10s. 6d. for each appearance.

Candidates may pay the Fees personally, or transmit them to T. GILBERT, University, Edinburgh, by *Post Office* or *Postal Orders* or by *Bank Drafts* crossed Union Bank of Scotland (Hunter Square Branch), Edinburgh, but not by cheques on private accounts. When names are not entered and Fees paid, or a Pass to the Examination obtained where the fee has been previously paid, on or before the stated dates, an additional or late entry fee of 10s. must be paid before the Candidate can be admitted to Examination. This fee will not be received after twelve o'clock of the last day but one preceding the Examination for which the Candidate desires to appear, without the express permission of the Dean of his Faculty and the subsequent sanction of the Senatus. A Candidate must enter his Name and pay the Fee, or, when the Fee has been previously paid, obtain a Pass, for each periodical Examination at which he desires to appear.

[II.] 1. Candidates before entering on the Curriculum must, unless exempted, pass a Preliminary Examination in the following subjects:<sup>1</sup>—

- (1) English.
  - (2) One of the following:—Latin, Greek, French, or German.
  - (3) Mathematics.
  - (4) One of the following:—Latin, Greek, French, or German (if not already taken), Italian, or such other language as the Senatus may approve,<sup>2</sup> Dynamics.
2. *English* includes Grammar and Composition, and the Outlines of Geography and British History, the standard being that presently adopted for the Higher Grade Leaving Certificate of the Scottish Education Department.
  3. *Latin* and *Greek* comprise grammatical questions, translations into English from Latin or Greek authors, not previously prescribed, and translations of plain passages or easy sentences from English into Latin or Greek. The standard is that presently adopted for the Lower Grade Leaving Certificate.
  4. *French*, *German*, and *Italian* comprise grammatical, literary, and easy philological questions, translation into English from French, German, or Italian authors, not previously prescribed, and translations from English into French, German, or Italian. The standard is that presently adopted for the Higher Grade Leaving Certificate of the Scottish Education Department.
  5. *Mathematics*—A student, who, having passed the Arts Preliminary Examination, has thereafter obtained a certificate of attendance on a qualifying class of Mathematics, will not be

<sup>1</sup> See section 5, and also additional Regulations of Joint Board of Examiners, pages 433-438.

<sup>2</sup> Any Candidate who proposes to be examined in a language other than those above named, is required to apply to the Senatus for approval before 1st February or 1st July for the Spring and Autumn Examinations respectively.

required to pass any further examination in Mathematics as a condition of entering on the course of study for graduation in Science.

6. Candidates may take Mathematics on the intermediate standard instead of on the higher standard,<sup>1</sup> provided they also take an additional modern language on the standard of the Preliminary Examination for Degrees in Medicine, as a fifth subject.

*Mathematics on the intermediate standard* comprises Mathematics on the lower standard—viz., (1) Arithmetic, including Vulgar and Decimal Fractions, Proportion, Percentage, Square Root, Simple Interest; (2) Algebra, including Fractions, Factors, Square Root, Equations of the First Degree, Simultaneous Equations of the First Degree, Easy Quadratic Equations, Problems leading to the above Equations; (3) Geometry—Euclid, Books I., II., and III. (or their equivalents), with easy deductions; and also (a) Euclid; Book VI., Propositions 1-19, or Geometry equivalent thereto. (b) Algebra; Quadratic Equations, Ratio and Proportion. (c) The Trigonometry of Right-angled Triangles.

No Candidate will be entitled to profess Mathematics, Natural Philosophy, or Astronomy at the Final Science Examination, unless he has passed the Preliminary Examination in Mathematics on the higher standard.

*Mathematics on the higher standard* comprises Mathematics on the lower standard as above, and Books IV., VI., and the first twenty-one propositions of Book XI. (or their equivalents), with deductions, Quadratic Equations, Trigonometry to the solution of Triangles inclusive, and the use of Logarithmic Tables.

7. *Dynamics* includes Elementary Statics and Kinetics of Solids, Liquids, and Gases.
8. A Candidate must pass in all the required subjects at one or not more than two Examinations, provided that he may offer himself for re-examination, as often as may be necessary, to satisfy this condition.
9. Attendance on any Science Class will not qualify for Graduation in Pure Science unless the whole Preliminary Examination has been previously passed.

## II.—DEGREE OF B.SC. IN PURE SCIENCE.

- [III.]<sup>2</sup> 1. Candidates for the Degree of B.Sc. must, in the course of not less than three Academical years (*i.e.* three Winter Sessions, or two Winter Sessions, and three Summer Sessions), attend at least seven courses of instruction in the subjects included in the Science Examination which they purpose to undergo.
2. Three of these Courses must be in subjects prescribed for the First Science Examination, and four must be in subjects prescribed for the Final Science Examination.

<sup>1</sup> This does not apply to graduation in Engineering.

<sup>2</sup> Figures within brackets refer to the Sections of Ordinance No. 12.

- [IV.] 3. Four of the seven Courses must be taken in the University of Edinburgh. The remaining three Courses may be taken at this University or at other Universities or Institutions approved by the University Court, or under teachers recognised by the University Court for purposes of Graduation in Science,<sup>1</sup> provided that the fees for attendance at an approved Institution or under a recognised teacher in Edinburgh, shall in all cases not be less than the fees exigible for the corresponding Courses in the University of Edinburgh.<sup>12</sup>
- [V.] 4. Every Candidate for a Degree in Science must produce his Matriculation Ticket for the year in which he appears for Examination or Graduation.
5. All Candidates, not Matriculated Students of this University, availing themselves of the permission to attend Lectures at approved Institutions or by recognised teachers in Edinburgh, must, at the commencement of each year of such attendance, enrol their names at the Matriculation office, paying a fee of the same amount as the Matriculation Fee, and having, in respect of such payment, a right to the use of the University Library.
- [XVII.] 6. A Student who before October 1892 has completed a part of his course of study with a view to Graduation in Science under regulations in force at the time in this University, and shall thereafter complete his course of study and pass the necessary Examinations in conformity with such regulations, or with those now in force, may become a Candidate for the Degree of B.Sc.
7. Candidates for Graduation who have previously passed the Examinations are required to intimate to the Clerk to the Senatus their intention to graduate, and pay the Registration fee at least ten days before the date of Graduation. Those whose Examinations are not then completed are required to give such intimation at the earliest possible date, and at latest one clear day before the day of Graduation.

#### UNIVERSITIES AND INSTITUTIONS AT PRESENT RECOGNISED IN TERMS OF REGULATION II. 3.

The Universities of St Andrews, Glasgow, Aberdeen, Oxford, Cambridge, Dublin, and Victoria University, Manchester. Heriot-Watt College:—Mechanics and Physics, as equivalent to one course in Natural Philosophy, qualifying for the first B.Sc. examination in Pure

<sup>1</sup> Extra-Academical courses, which have been recognised as qualifying for graduation in Medicine prior to November 1893, are also recognised for graduation in Science, provided they are equivalent to the Science Courses in the same subjects in the University.

<sup>2</sup> Only Institutions and Teachers with the necessary staff and appliances for Theoretical and Practical Instruction in Science will be recognised by the University. A List of Universities and Institutions at present recognised in terms of this regulation is given on this and the following page.



Science, Engineering, and Agriculture; Advanced Chemistry and Chemical Laboratory, as qualifying for the final B.Sc. examination; Electricity (Pure and Applied), Engineering-Laboratory Practice (Mechanical or Electrical), as qualifying for the degree of B.Sc. in Engineering. The Glasgow and West of Scotland Technical College; University College, Dundee; University College, London; King's College, London; The Royal Colleges of Science, South Kensington; The Owens College, Manchester; The Mason College, Birmingham; The College of Science, Newcastle-on-Tyne; The Yorkshire College of Science, Leeds; University College, Bristol; University College, Liverpool; The Firth College, Sheffield; University College, Nottingham; The University College of North Wales, Bangor; University College of Wales, Aberystwyth; The University College of South Wales and Monmouthshire; The Engineering College, Cooper's Hill. The Queen's College, Belfast; The Queen's College, Cork; The Queen's College, Galway; The College of Science, Stephen's Green, Dublin; The School of Mines, Dublin; The Royal Agricultural College, Cirencester; The College of Agriculture, Downton; and the Veterinary Colleges of the United Kingdom; The Presidency Colleges in Calcutta, Madras, and Bombay; The Thomasson Engineering College, and the Engineering College, Poona; M'Gill University, Montreal; The University College of Toronto; Queen's University, Kingston, Ontario; The University of Sydney; The University of Melbourne; The University of Adelaide; Wellington College; The University of New Zealand; The University of Otago; Dalhousie College, Halifax, Nova Scotia; Stellenbosch College, South Africa; The University of Harvard; The University of Yale; The Johns Hopkins University; The Universities, and Polytechnic Schools supported and regulated or recognised by the governments of the respective Countries of Europe.

### 3. TEACHERS RECOGNISED UNDER REGULATION II.

A. P. Aitken, D.Sc. (Chemistry), 19th June 1899; R. Turnbull, D.Sc. (Botany), 19th June 1899; Dr Stevenson Macadam (Chemistry), 16th December 1899.

## EXAMINATIONS.

### DEGREE OF BACHELOR OF SCIENCE.

For the Degree of B.Sc. there are two Examinations, conducted by written questions, as well as orally and practically.

#### (a) *First Science Examination.*

[VIII.] 1. The First Examination for the Degree of B.Sc. is as to the general knowledge of the Candidate on the following subjects:—

- (i.) Mathematics, or Biology (*i.e.* Zoology and Botany).
- (ii.) Natural Philosophy.
- (iii.) Chemistry.



2. The Examination in these subjects is the same as for the ordinary degree of Master of Arts. [The First Professional Examination (Medicine) in Zoology and Botany is not accepted as equivalent.]

3. Candidates may present themselves in any one or more of these subjects at any Examination held after they have attended a full course in the subject or subjects professed.

*(b) Second Science Examination.*

[IX.] 1. The Second B.Sc. Examination is on a higher standard in any three or more of the following subjects :—

- (1) Mathematics.
- (2) Natural Philosophy.
- (3) Astronomy.
- (4) Chemistry.
- (5) Human Anatomy, including Anthropology.
- (6) Physiology, including Histology and Physiological Chemistry.
- (7) Geology, including Mineralogy.
- (8) Zoology, including Comparative Anatomy.
- (9) Botany, including Vegetable Physiology.

2. The standard of this Examination is as nearly as possible equivalent to that of the Examination for the Degree of M.A. with Honours, where the subjects are different : and where the subjects are the same the examination is identical.

3. A subject already taken for the First Examination may be taken also for the Second Examination.

4. Candidates presenting themselves for the Second Examination must have attended four full courses of higher instruction, including practical or laboratory work, in the Subjects professed. [See below.]

5. The Second Science Examination cannot be taken sooner than one year after the Candidate has passed the First Science Examination.

[X.] 6. If a student, before passing the Preliminary Examination has attended a class qualifying for graduation, the Senatus may, on special cause shown, permit him to count such class for examination, on condition of his passing the full Preliminary Examination within such time as the Senatus may appoint.

[XI.] 7. A Candidate for the degree of B.Sc. is not deemed to have attended a class as part of the curriculum for that degree unless he presents a certificate bearing not only that he has given regular attendance, but also that he has duly performed the work of the class.

[XII.] 8. The Examiners for the degree of B.Sc. have power to report that a Candidate has passed with special distinction in one or more of the subjects professed by him : and in such case a Diploma is given setting forth the subjects in respect of which the degree has been granted, and the subject or subjects in which special distinction has been obtained.

9. A Candidate who has passed the First and Second Science Examinations, and otherwise complied with the regulations for Graduation, will be recommended to the Senatus for the Degree of B.Sc.

COURSES FOR FINAL EXAMINATION IN PURE SCIENCE.<sup>1</sup>

In Mathematics and Natural Philosophy the Examination is the same as for Honours in Arts. In each of the other subjects professed, two written papers are set, namely, a *first* and a *second* paper; and the Practical and Oral Examinations also consist of *first* and *second* parts. The second part of the Examination is of a higher standard than the first. Candidates must pass the first section of the Examination (as well written as practical and oral) in all the subjects professed. They must also pass the second section in at least one of their subjects. The following Courses of Higher Instruction in this University, (1) Intermediate and (2) Advanced, qualify for the first and second stages of the Final Examination in Pure Science:—

1. Mathematics : (1) *Intermediate Course*, as for Honours in Arts. (2) *Advanced Course*, as for Honours in Arts.
2. Natural Philosophy : (1) *Intermediate* Mathematical, (2) *Advanced* Mathematical, *Advanced* Experimental, or *Special* Laboratory Course.
3. Astronomy : (1) *Intermediate Course* : Winter Lecture Course, including Practical work, (2) *Advanced Course* of Practical Instruction at the Observatory.
4. Chemistry : (1) *Intermediate Course* : One Winter Course, or two Summer Courses in the Laboratory, and a Lecture Course on Organic Chemistry. (2) *Advanced Course* : Further Laboratory Work and one additional Lecture Course.
5. Human Anatomy, including Anthropology : (1) *Intermediate Course* : Six months' Lectures on Systematic Anatomy (Winter Session), with six months' Practical Anatomy. (2) *Advanced Course* : Course of Anthropology.
6. Physiology : (1) *Intermediate Course* : Six months' Lecture Course (Winter Session) and Practical Work (Winter and Summer Session). (2) *Advanced Course* : Laboratory Work (Winter Session).
7. Geology, including Mineralogy : (1) *Intermediate Course* : Winter Lecture Course and Practical Class. (2) *Advanced Course* : Laboratory Work, or Advanced Lecture Course—either Petrology or Mineralogy and Crystallography.
8. Zoology, including Comparative Anatomy : (1) *Intermediate Course* : Six months' Course, including Lectures on Invertebrate Zoology, and on Embryology, with Laboratory Work. (2) *Advanced Course* : Six months' Course on the Morphology of the Invertebrata and Vertebrata, and Laboratory Work.
9. Botany, including Vegetable Physiology : (1) *Intermediate Course* : One Winter and One Summer Course in Laboratory. (2) *Advanced Course* : Laboratory Work, with one or more Lecture Courses.

## DEGREE OF DOCTOR OF SCIENCE.

1. Graduates of this University who have held the Degree of B.Sc. for five years may offer themselves for the Degree of D.Sc. Candidates

<sup>1</sup> See footnote 1, page 233.

must profess one of the following branches of Science :—Mathematics; Natural Philosophy; Astronomy; Chemistry; Human Anatomy, including Anthropology; Physiology, including Histology; Geology, including Mineralogy; Zoology, including Comparative Anatomy; Botany, including Vegetable Physiology; and in this they will be expected to show a thorough knowledge.

2. Masters of Arts of this University with first or second class honours in Mathematics and Natural Philosophy under the conditions prescribed by the present Regulations for Degrees in Arts, or under the Regulations previously in force in this University, may offer themselves for the degree of D.Sc. after the expiry of five years from the date of their graduation in Arts, under the same conditions as if they held the degree of B.Sc.

3. Research Students within the meaning of the Regulations for the Encouragement of Special Study and Research and for the appointment of Research Fellows, may offer themselves for the degree of D.Sc. of the University in which they have prosecuted some special study or research, although they have not taken the degree of B.Sc. or the degree of M.A. with honours as aforesaid, in that University; provided—

(1) That they hold the degree of Bachelor of Science or Bachelor of Medicine of a Scottish or any recognised University, or a degree of any such University, which the Senatus shall hold equivalent to the degree of B.Sc. or to the degree of M.A. with first or second class honours in Mathematics and Natural Philosophy; provided that Candidates who hold any such degree from a University outside the United Kingdom may be required, if the Senatus think fit, before beginning their course as Research Students with a view to the degree of D.Sc., to pass an examination equivalent to an Honours or to a Final Science examination in a group of subjects cognate to their line of work as Research Students.

(2) That they have spent not less than two winter sessions or an equivalent period as Research Students in the University granting the degree, and that they produce evidence of satisfactory progress in the special study or research undertaken by them during that period.

(3) That a period of not less than five years shall have elapsed from the date of the graduation required in sub-section (1) of this section.

4. All Candidates for the degree of D.Sc. shall present a Thesis or a published Memoir or Work, to be approved by the Senatus on the recommendation of the Faculty of Science; provided that, if required by the Senatus, the Candidate shall also be bound to pass such an examination conducted orally or practically, or by written papers, or by all of these methods, on the subjects of his special study or of his Thesis, as may from time to time be determined. The Thesis shall be a record of original research undertaken by the Candidate, and

shall be accompanied by a Declaration, signed by him, that the work has been done and the Thesis composed by himself.

The Thesis must be lodged with the *Dean of the Faculty of Science* and the fees paid on or before 1st December.

5. Notwithstanding and in supplement of the Regulations as to Examinations, the *Senatus Academicus* shall appoint such Professors or Lecturers as it may think suitable to conduct the examination of candidates who may offer themselves for the degree of D.Sc., and the University Court shall, after consultation with the *Senatus Academicus*, appoint an additional Examiner to act along with them. Such additional Examiner shall be a person of recognised eminence in the subject of the thesis, or memoir, or work which is to be submitted for approval. The result of the examination shall be reported to the appropriate Faculty or Committee of *Senatus*.

6. The degree of D.Sc. shall in no case be conferred on persons who have not satisfied the conditions hereinbefore set forth, and shall not be conferred *honoris causa tantum*.

7. The fee for examination for D.Sc. is £10, 10s.; for re-examination, £5, 5s.

#### REGULATIONS FOR SPECIAL STUDY AND RESEARCH AND FOR APPOINTMENT OF RESEARCH FELLOWS, &c. See p. 115.

#### REGULATIONS FOR THE GRADUATION OF WOMEN AND FOR THEIR INSTRUCTION.

##### EXCERPTS FROM ORDINANCE NO. 18 (GENERAL NO. 9).

1. It shall be in the power of the University Court to admit women to graduation.

2. The conditions for graduation shall be the same for women as for men, subject to the following modifications, which shall have effect until provision is made for the instruction of women in all subjects qualifying for graduation, in which provision is made for the instruction of men :—

Section 3 of the Regulations for Degrees in Science shall not be applicable to the graduation of women in Science, so long as within the Faculty provision is not made for the instruction of women in any subject qualifying for graduation in which provision is made for the instruction of men, and it shall be in the power of the University Court to admit to graduation women who have received the requisite instruction in that subject in any other Universities or Institutions approved by the University Court, or under teachers recognised by the University Court for purposes of Graduation in Science: Provided always that every candidate for graduation shall produce evidence of having satisfied the conditions with respect to the Preliminary Examination, and shall be examined in all the subjects necessary for graduation by the Examiners of the University.

3. So soon as within the University provision is made for the instruction of women in all subjects qualifying for graduation in which provision is made for the instruction of men, the conditions for the graduation of women shall be the same as the conditions for the graduation of men.

4. (1) Women who attend classes in the University must matriculate, paying a fee of the same amount as that exigible for other students. (2) Women, who are candidates for graduation but not matriculated students, and who may attend classes in Edinburgh, under the provisions above set forth, must, at the commencement of each year of such attendance, enrol their names in a book to be kept in the University for that purpose, paying a Fee of the same amount as the Matriculation Fee paid by students of the University; and having, in respect of such payment, a right to the use of the Library of the University.

#### ADDITIONAL REGULATIONS BY THE UNIVERSITY COURT.

Any woman who has received the requisite instruction in Chemistry, Botany, and Zoology, in any other University or Institution already approved by the University with the view to the Graduation of men, or under any teacher already recognised with that view, or in the Medical College for Women, Chambers Street, Edinburgh, will—subject to the provisions of Ordinance<sup>1</sup> No. 18, General No. 9, Regulations for the Graduation of Women, &c.—be admitted to Examination in these subjects for Graduation in Science.

Women may attend within the University the advanced Courses in Botany and Zoology, and the advanced Lecture Courses in the Chemistry Department, qualifying for Graduation in Science.

#### OUTLINE OF EXAMINATIONS.

##### I.—FIRST EXAMINATION FOR B.SC. IN PURE SCIENCE.

###### (a1) MATHEMATICS.

Arithmetic—Euclid, Books I., II., III., IV., VI., and XI., or their equivalent, with their application to Mensuration—Algebra, Trigonometry, Conic Sections, Geometrical and Analytical.

*Candidates must show sufficient knowledge in each of the subjects of Examination.*

<sup>1</sup> See Ordinance, Appendix to CALENDAR, 1892-93, page 51.



(a2) ZOOLOGY.

(a) The General Principles of Biology.

(b) The distinctive characters of the Invertebrate groups, and the structure, habits, &c., of *Amœba*, *Paramœcium*, *Hydra*, *Lumbricus*, *Nereis*, *Hirudo*, *Anodon*, *Buccinum*, *Helix*, *Nephrops*, *Astacus*, and *Periplaneta*.

(c) The distinctive characters of the Vertebrate groups, and the structure, habits, &c., of *Myxine*, *Raia*, *Rana*, *Columba*, and *Lepus*.

(d) A general knowledge of the Orders of Vertebrata.

(e) The outlines of the development of *Amphioxus*, *Scyllium*, *Rana*, *Gallus*, and *Lepus*, and of the characteristic larval forms of *Echinodermata*, *Crustacea*, *Annelida*, and *Mollusca*.

(f) The Geographical Distribution of Animals.

(a2) BOTANY.

The characteristic features of the following groups and classes of the vegetable kingdoms:—

*Thallophyta* *Schizophyta*, *Algæ*, *Fungi*; *Muscineæ* [*Hepaticæ*, *Musci*]; *Pteridophyta* [*Filicineæ*, *Equisetinæ*, *Lycopodineæ*]; *Phanerogamæ* [*Gymnospermæ*, *Angiospermæ* (*Monocotyledones*, *Dicotyledones*)].

The fundamental facts and principles of *Organography*, *Physiology*, and *Geographical Distribution*. The life-history of the following plants:—*Bacterium*, *Nostoc*, *Spirogyra*, *Saccharomyces*, *Mucor*, *Vaucheria*, *Agaricus*, *Collema*, *Puccinia*, *Claviceps*, *Eurotium*, *Marchantia*, *Fucus*, *Polysiphonia*, *Funaria*, *Aspidium*, *Equisetum*, *Selaginella*, *Pinus*, *Cycas*, *Scilla*, *Capsella*, *Helianthus*, *Ulmus*, *Quercus*.

The characters of plants belonging to the chief British natural orders of *Phanerogamæ*.

(b) NATURAL PHILOSOPHY.

Elementary Dynamics.

Experimental Physics.

*Candidates must show sufficient knowledge of both subjects.*

(c) CHEMISTRY.

Chemical changes as distinguished from physical changes. Elements; compounds; mixtures. Laws of chemical combination by weight and by volume. The Atomic theory. Atoms; molecules. Avogadro's Hypothesis. Molecular weights of gaseous and volatile substances. Atomic weights. Law of Dulong and Petit. Chemical Notation—Symbols; formulæ; equations. Simple chemical calculations.

The non-metallic elements and their chief compounds; especially the compounds of oxygen, of hydrogen, and of chlorine with the other non-metals. The more important inorganic acids. The atmosphere. Combustion. Oxidation and reduction.

The following metallic elements and their chief compounds; especi-



ally those with oxygen, with chlorine, and with sulphur: Gold, platinum, silver, mercury, lead, antimony, tin, copper, bismuth, zinc, cadmium, iron, aluminium, chromium, manganese, barium, strontium, calcium, magnesium, potassium, sodium.

The following salts: the ammonium salts; the more important sulphates, sulphites, thiosulphates, nitrates, nitrites, carbonates, bromides, iodides, iodates, phosphates, borates, silicates.

The relations of bases, acids, and salts. Electrolysis. Quantivalence. The periodic law.

The metallurgy of silver, mercury, copper, lead, tin, zinc, iron (including cast iron and steel). Alloys, such as brass, bronze, solder, type-metal. Amalgams.

The manufacture of aluminium, magnesium, potassium, sodium, glass, porcelain, mortar, gunpowder, sulphuric acid, sodium carbonate and bicarbonate, caustic soda, bleaching powder and chlorates, white lead.

Classification of Carbon compounds. Marsh Gas and its Homologues. Chloroform. Methyl and Ethyl Alcohols and Ethers. Substituted ammonias and ammonium salts. Formic and Acetic Acids, Aldehyde, Acetone, Chloral, Olefiant Gas, Acetylene, Oxalic Acid, Lactic Acid. Tartaric Acid, Citric Acid. Fats and Oils, Saponification, Glycerine. Cellulose, Sugars, Starch. Distillation of Wood and of Coal. Benzene, Benzoic Acid, Phenol, Salicylic Acid, Oil of Bitter Almonds, Hydrocyanic Acid, Cyanides, Cyanates, Thiocyanates, Urea, Uric Acid.

Simple Qualitative Analysis. The examination in this is conducted practically. Candidates are required to examine unknown *single salts* for both metallic and salt radicals, as contained in the following lists:—

Silver, Mercurous, Mercuric, Cupric, Lead, Stannous, Cadmium, Bismuth, Antimony (*Tartar Emetic* may be given), Arsenious, Zinc, Manganous, Ferrous, Ferric, Chromic, Aluminium, Calcium, Barium, Strontium, Magnesium, Ammonium, Sodium, Potassium.

Carbonate, Sulphite, Thiosulphate, Sulphide, Hypochlorite (Bleaching solution), Nitrite, Chloride, Bromide, Iodide, Cyanide, Sulphate, Chromate, Orthophosphate, Arseniate, Arsenite, Borate, Oxalate, Nitrate, Chlorate, Acetate.

At the examination, Candidates are supplied with the following reagents, &c.:—Acetic Acid, dilute Hydrochloric Acid, dilute Nitric Acid, Sulphuric Acid, dilute Sulphuric Acid, Alcohol, Iodine, Ammonia, Ammonium Carbonate, Ammonium Chloride, Ammonium Oxalate, Ammonium Sulphide, Barium Nitrate, Bleaching Powder, Calcium Chloride, Calcium Hydrate, Calcium Sulphate, Cobaltous Nitrate, Cupric Sulphate, Ferric Chloride, Ferrous Sulphate, Lead Acetate, Magnesium Sulphate, Mercuric Chloride, Potassium Carbonate, Potassium Chromate, Potassium Ferricyanide, Potassium Ferrocyanide, Potassium Hydrate, Potassium Iodide, Silver Nitrate, Sodium

Bitartrate, Sodium Phosphate, Sodium Sulphite, Stannous Chloride, Sulphuretted Hydrogen. *Solids*—Manganese Dioxide, Sodium Carbonate, Borax, Sulphur, Zinc, Copper.

Test papers :—Blue Litmus, Red Litmus, Plain, Starch, Turmeric. Bunsen Burner, Test Tubes.

## II.—FINAL EXAMINATION.

### (a) MATHEMATICS.

Pure Geometry, Algebra, Theory of Equations, including Determinants, Trigonometry (Plane and Spherical), Analytical Geometry, Differential and Integral Calculus, Calculus of Finite Differences. (The Candidate may, if he please, profess the Elements of Quaternion Analysis.)

### (b) NATURAL PHILOSOPHY.

Experimental Physics ; Analytical Dynamics and Thermodynamics ; *imperative*.

In addition, two or more branches of Elementary Mathematical Physics (such as Geometrical or Physical Optics, Statical or Voltaic Electricity, Capillarity, &c.). These may be selected by the Candidate.

### (c) ASTRONOMY.

1. The Principles and Practice of astronomically finding the geographical co-ordinates of the place of observation on land and at sea.

2. The Principles that guide the actual determination of the chief astronomical constants—*refraction, aberration, nutation, precession, and solar-parallax* in fixed observatories

3. The methods used for determining the figure and size of the earth.

The Candidate will be required to explain the general principles on which the orbits of planets, etc., are calculated, and must show a thorough knowledge of the methods followed in the case either of a *comet, planet, double-star, or of a meteorite and a meteoric swarm*.

One group of observations must have been made in the field, or at an observatory, and fully reduced so as to show the value of the derived results, and the precautions that have been taken to free them from instrumental and personal errors. Candidates will also be examined as to the best ways of testing the critical parts of instruments, such as a *pivot, screw, level, &c.*

### (d) CHEMISTRY.

Written and Oral Examinations :—Inorganic Chemistry, including Mineralogical Chemistry ; Organic Chemistry ; Chemical Crystallography ; History of Chemistry.

In the written papers a choice of questions is allowed, so as to adapt the examination to the various courses of advanced study which Candidates may have selected.

Practical Examination :—Intermediate complex qualitative Analysis ; Inorganic preparations ; Gravimetric and Volumetric Analysis.

Each Candidate taking the higher standard will also be examined on Organic Preparations, Ultimate Organic Analysis, and one of the following subjects, selected by himself :—Gas Analysis ; Assaying ; Physico-chemical measurements.

(e) HUMAN ANATOMY, INCLUDING ANTHROPOLOGY.

Candidates are required to show a competent knowledge of the development of the human body and of its parts and organs ; also the position and general arrangement of the different "systems" of organs which enter into its construction, and the structure both of these organs and of the simple tissues. A special knowledge of the locomotory apparatus and of the nervous and vascular systems will be required. An acquaintance with the technical applications of human anatomy to the practice of Medicine and Surgery is not asked for.

The Anthropological part of the subject will embrace a knowledge of race characters as found in the skull and other parts of the skeleton, in the skin, eyes, hair, features, and the external configuration of the body generally. The methods of anthropometrical measurement both of the living body and of the skeleton should be known. The possible influence of use and of external surroundings in producing modifications in the physical characters of man will require attention. An acquaintance with the "types" of mankind and the structural relations of man to the higher mammals will also be expected.

(f) ANIMAL PHYSIOLOGY.

(*Written and Practical Examinations.*)

The minute Structure, Chemical Composition, and Functions of the Tissues and Organs of the Animal Body.

The Chemical Composition and Products of the Foods and Fluids involved in the Processes of Nutrition and Secretion.

In the Practical Examination Candidates may be examined orally on any of the above subjects, and will be required to show a practical acquaintance with the methods employed in Histology, Physiological Chemistry, and Experimental Physiology.

(g) GEOLOGY, INCLUDING MINERALOGY.

1. *Dynamical Geology.*—The nature and operation of geological agents :—The Atmosphere, Rain, Terrestrial Waters, Ice, the Sea, Plants and Animals, Volcanoes, Movements of the Earth's Crust.

2. *Mineralogy.*—Physical and Chemical characters of the more important and typical species in the various mineral groups—more especially the rock-forming minerals and ores.

3. *Petrology.*—Megascopic and Microscopic Characters, Composition, Origin and Distribution of Rocks.

4. *Structural Geology*.—Structure of Rock-masses, Bedding, Joints, Cleavage, Foliation, Metamorphism, Faults, Unconformity.

5. *Palæontological Geology*.—Characters, and distribution in time, of the more important Genera and Orders, especially those found fossil in Britain.

6. *Stratigraphical Geology*.—The History of the Geological Systems—more especially those of the British Islands.

7. *Physiographical Geology*.—Origin of the present outlines of the Earth's surface.

#### (h) ZOOLOGY, INCLUDING COMPARATIVE ANATOMY.

1. The Systematic Zoology of the Invertebrate and Vertebrate groups.

2. The Elements of the Comparative Anatomy and Development of the Invertebrata and Vertebrata.

3. The Principles of Natural Selection, a Knowledge of the Geographical Distribution of Vertebrate Animals.

The following books are recommended:—Haswell and Parker's "Zoology"; Lang's "Text-Book of Comparative Anatomy"; Huxley's "Vertebrata"; Flower and Lydeker's "Mammalia"; Vogt and Yung's "Practical Zootomy" (German or French edition); Darwin's "Origin of Species"; Wallace's "Darwinism" and "Island Life"; Marshall's "Embryology."

#### (i) BOTANY, INCLUDING VEGETABLE PHYSIOLOGY.

1. Organography and Physiology of Plants.

2. The Principles of Plant Classification, and the Systematic Characters of the chief Families of Plants, including the Life Histories of Representative Types.

3. The chief facts of Geographical Distribution, and the explanation of these.

4. The chief facts of Vegetable Palæontology, and their bearing on the Theory of Descent.

## II.—ENGINEERING.

### REGULATIONS AND CURRICULUM FOR DEGREES IN ENGINEERING.

*Candidates who began attendance on qualifying Science Classes before 1st October 1893, are referred to CALENDAR 1895-96 or previous CALENDARS.*

I. Two degrees in Science in Engineering are conferred by the University of Edinburgh—viz., Bachelor of Science in Engineering and Doctor of Science in Engineering.

I.—PRELIMINARY EXAMINATION FOR BACHELOR OF SCIENCE.

II. Every candidate for the degree of B.Sc. in Engineering must pass the Preliminary Examination<sup>1</sup> prescribed for Degrees in Pure Science, and the conditions with respect thereto imposed by the Regulations for Degrees in Pure Science are applicable in all respects to Degrees in Engineering except as follows—viz., Mathematics must be passed on the Higher Standard and the Preliminary Examination must be passed before the candidate presents himself for any part of the First Science Examination, but not necessarily before the candidate enters on his curriculum.

II.—COURSES OF INSTRUCTION.

III. (1) Candidates must, in the course of not less than three Academical years (*i.e.* three Winter Sessions, or two Winter Sessions and three Summer Sessions), attend at least the eleven courses of instruction prescribed under Section VIII. hereof.

(2) It is the duty of the Senatus to determine from time to time which of the said courses are full and which are half courses respectively, and also to determine the number of meetings of which such full courses and half courses respectively shall consist, and to report its determination to the University Court for its approval.

IV. (1) Five full courses or their equivalent (counting two half courses as one full course) must be taken in the University of Edinburgh, and must include the necessary courses in Engineering, except where the University Court, after consultation with the Senatus, sees fit to allow one of the courses in Engineering to be taken outside the University under the provisions of the next sub-section.

(2) The remainder of the said courses may be taken in other Universities or Institutions approved by the University Court, or under teachers recognised by the University Court for purposes of graduation in Science in Engineering :<sup>2</sup> Provided that the fees for attendance at an approved Institution in Edinburgh or under a recognised teacher there are not less than the fees exigible for the corresponding courses in the University of Edinburgh.

V. The University Court may make regulations to enable candidates, not matriculated students of the University of Edinburgh, availing themselves of the permission to attend lectures at approved institutions or by recognised teachers in Edinburgh to obtain, on payment of a fee not exceeding in amount the matriculation fee paid by the students of the University, a right to the use of the Library of the University.

VI. (1) It is the duty of the Professors and Lecturers annually at the end of each winter session to submit to the Senatus a scheme specifying what proportion of the courses shall be devoted to lectures, practical demonstrations, examinations, and tutorial work respectively.

<sup>1</sup> See page 231.

<sup>2</sup> See footnotes 1 and 2, page 233.



The Senatus transmits such scheme, with such observations as it may think fit to make thereon, to the University Court for its approval.

(2) It is the duty of the Professors and Lecturers annually at the end of each winter session to submit to the Faculty of Science, for its consideration, syllabuses of the subjects and books proposed for the work of their classes during the next Academical year. The Faculty of Science transmits such syllabuses, with such observations as it may think fit to make thereon, to the Senatus for its approval.

VII. The provisions of the preceding section do not apply to approved Institutions or recognised teachers outside Edinburgh; but the University Court will not grant or continue recognition to any Institutions or teachers unless it is satisfied that their courses of instruction are equivalent to the courses sanctioned in the University of Edinburgh.

VIII. The subjects of study are as follows:—

1. Mathematics, including Analytical Geometry, and Differential and Integral Calculus.
2. Natural Philosophy, including Applied Higher Mathematics.
3. Chemistry.
4. A course in the Physical Laboratory or in the Chemical Laboratory, or of Practical Chemistry.
- 5, 6. Two Courses in Practical work in Drawing.
- 7, 8, 9. Three Courses in Engineering, including Engineering Laboratory Practice, and Field Work.
10. Natural Philosophy, involving Higher Mathematics.
11. One of the following:—
  - (a) Engineering Laboratory Practice, Mechanical or Electrical (Special Course).
  - (b) Electricity—Pure and Applied.
  - (c) Geology and Mineralogy.

### III.—SCIENCE EXAMINATIONS.

#### (a) *First Science Examination.*

IX. (1) There is a First Science Examination in the three following subjects, viz.:—(1) Mathematics, (2) Natural Philosophy, (3) Chemistry; and the examinations in Natural Philosophy, and in Chemistry are so far as possible practical.

The examination in Geometrical Drawing may be taken either at the First or at the Final Science Examination.

(2) The examination in Mathematics includes the higher branches of Mathematics specified under Mathematics in the Section immediately preceding; but it is optional to Candidates to pass the same examination in this subject as that required for the ordinary Degree of M.A., provided that in that case they will be required, before graduation, to pass an examination in the remainder of the subject.

(3) Candidates may present themselves in any one or more of the subjects of the First Science Examination at any examination held after they have attended a full course in the subject or subjects professed.



The following Classes in the University qualify for the First Science Examination in Engineering :—

1. Mathematics—Intermediate Honours Class (Winter), or Advanced Class (Summer).
2. Natural Philosophy—As for Pure Science Degrees.
3. Chemistry—As for Pure Science Degrees.
4. Physical or Chemical Laboratories—A three months' Course in either.
5. Drawing—Class of Geometrical Drawing during one Winter Session.

*(b) Final Science Examination.*

X. (1) There is a Final Science Examination in the remaining subjects specified in Section VIII. ; and, if required, in the higher branches of Mathematics as provided in Section IX., Sub-section 2.

(2) Candidates may present themselves in one or more of these subjects at any examination after they have passed the whole of the subjects in the First Science Examination and have attended the required courses in the subjects professed, provided that for this purpose subjects 5, 6, 7, 8, and 9, specified in Section VIII., shall form one subject.

XI. A candidate for the degree of B.Sc. in Engineering is not deemed to have attended a class as part of the curriculum for that degree who does not present a certificate bearing not only that he has given regular attendance, but also that he has duly performed the work of the class.

XII. It is competent to the Examiners for the degree of B.Sc. in Engineering to report that a candidate has passed with special distinction in one or more of the subjects professed by him ; and in such a case a diploma is given setting forth the subjects in respect of which the degree has been granted, and the subject or subjects in which special distinction has been obtained.

XIII. It is competent to the University Court to modify from time to time the provisions as to the curriculum, in case such modification be rendered desirable by the development of Engineering Science, or in consequence of further provisions having been made within or without the University for the study of any branch of the said Science : Provided that in no case shall the number of full courses of study required be less than the number required for the degree of B.Sc. in Pure Science.

The following Classes in the University qualify for the Final Science Examination in Engineering :—

1. Drawing—Class of Engineering and Mechanical Drawing during one Winter Session.
2. Engineering—(a) Class of Systematic Engineering during two Winter Sessions. (b) Class of Engineering Field-Work, held in Summer.
3. Engineering Laboratory, or Electricity (Pure and Applied), or Geology and Mineralogy—A three months' Course in either.

## IV.—DOCTORATE OF SCIENCE IN ENGINEERING.

XIV. Graduates of the University of Edinburgh who have held the degree of B.Sc. in Engineering for five years, may offer themselves for the degree of D.Sc. in Engineering.

XV. A candidate for the degree of D.Sc.<sup>1</sup> in Engineering must present a Thesis, or a published memoir or work, to be approved by the Senatus on the recommendation of the Faculty of Science: Provided that, if required by the Senatus, the candidate must pass such examination as may be determined. The Thesis must be a record of original research undertaken by the candidate, or of important engineering work designed by himself, and actually carried out, and must be accompanied by a declaration, signed by him, that these conditions have been satisfied.

## GENERAL.

XVI. Candidates who produce certificates that they have satisfied all the conditions prescribed by these Regulations, and who have passed the necessary examinations, will be entitled to receive the degrees of B.Sc. in Engineering and D.Sc. in Engineering, as the case may be, on the payment of the fees required.

XVII. A student who, when these Regulations came into operation, had completed a part of his course of study with a view to graduation in Science in Engineering in the University of Edinburgh, under regulations in force at the time, and who thereafter completes his course of study and passes the necessary examinations in conformity with such regulations, or with the provisions hereof, may become a candidate for the degree of B.Sc. in Engineering.

XVIII. The degrees of B.Sc. and D.Sc. in Engineering are in no case conferred on persons who have not complied with the above conditions, and are not conferred *honoris causâ tantum*.

## OUTLINE OF SUBJECTS OF EXAMINATION.

## FIRST BACHELOR OF SCIENCE EXAMINATION.

- I. MATHEMATICS—Two papers, one of two hours and one of three hours, to be taken at one time.<sup>2</sup> Subjects:—Mensuration; Trigonometrical Solution of plane triangles, involving the use of logarithmic tables (to be brought by the candidates). Curve-tracing; Elements of Cartesian and Polar Co-ordinates, including application to the analytical geometry of the straight line and the conic sections; Expansion of a determinant and elements of the theory of equations. Fundamental ideas of the Differential and Integral Calculus;

<sup>1</sup> The Thesis must be lodged with the Dean of the Faculty on or before 1st December.

<sup>2</sup> A candidate who has passed the M.A. Examination in Mathematics is exempted from the first of these papers.

Differentiation and Integration of Simple Functions ; Geometrical Interpretation of Differentiation and Integration ; Elementary application to plane curves, maxima and minima of functions of one variable, areas, volumes, centres of mass and moments of inertia ; Simple Differential Equations.

2. NATURAL PHILOSOPHY, mainly Practical Physics.
3. CHEMISTRY—Same as for First Examination in Pure Science.

## SECOND BACHELOR OF SCIENCE EXAMINATIONS.

### 1. (a) ENGINEERING—

*Field-Work.*—Surveying ; Levelling ; Setting out of Work ; Calculation of Quantities.

*Properties of Materials.*—General Properties, with special knowledge of their Strength, and the Purposes to which they are applied, and some knowledge of their Cost.

*Strength and Stability of Structures designed by Civil Engineers.*—Metal and Timber Bridges and Roofs. Arches in Masonry. Walls. Retaining Walls. Embankments. Cuttings. Breakwaters. Aqueducts. Pipes. Canals.

*Strength and Form of the Elements of Machines.*

*Design of Combined Structures.*—An elementary knowledge of the Design of Bridges and Roofs, of Reservoirs, Embankments, collecting and distributing Machinery of Waterworks, and of the main features of Railway construction, Harbours, and Drainage.

*Design of Machinery.*—An elementary knowledge of the construction of the Steam Engine, stationary and locomotive, of Prime Movers driven by Water, of Mill-wright work, and the general arrangement of Workshops and Factories.

*Prime Movers.*—Theory of Heat Engine. The Hot Air Engine. The Steam Engine. The Gas Engine. Turbines and Water Wheels.

*Power Transmission*—Telodynamic, Hydraulic, Electric.

*Engineering Laboratory Practice.*

### (b) DRAWING—

Candidates must exhibit a good knowledge of Geometrical Drawing, including the use of Graphics as applied in the solution of Engineering problems, and be able to represent neatly, in the usual manner employed by engineers, Plans and Sections of Buildings and Machinery, and also to make Engineering Sketches with figured dimensions from actual objects.

### 2. NATURAL PHILOSOPHY—

*Applied Mathematics, chiefly Dynamics.*

3. (a) ENGINEERING LABORATORY PRACTICE, MECHANICAL OR ELECTRICAL.

(b) ELECTRICITY—PURE AND APPLIED.

(c) GEOLOGY AND MINERALOGY—

*Dynamical Geology.*—Nature and Operation of geological agents:—The Atmosphere, Rain, Terrestrial Waters, Ice, the Sea, Plants and Animals, Volcanoes, Movement of the Earth's Crust.

*Mineralogy.*—Physical and Chemical characters of the more important and typical species in the various mineral groups—more especially the rock-forming minerals and ores.

*Petrology.*—Megascopic and Microscopic Characters, Composition, Origin and Distribution of Rocks.

*Structural Geology.*—Structure of Rock-Masses, Bedding, Joints, Cleavage, Foliation, Metamorphism, Faults, Unconformity.

*Physiographical Geology.*—Origin of the present outlines of the Earth's surface.

### DOCTOR OF SCIENCE EXAMINATION.

A Candidate for this Degree will be required to offer a thesis or published memoir affording evidence of original work, and may also be required to pass a Special Examination. See page 248.

### III.—PUBLIC HEALTH.

#### IV. REGULATIONS AND CURRICULUM FOR DEGREES IN PUBLIC HEALTH.

*Candidates who commenced attendance on qualifying Science Classes before 1st October 1894 are referred to the CALENDAR for 1895-96, or to previous CALENDARS.*

I. Two degrees in Science in Public Health are conferred by the University of Edinburgh, viz., Bachelor of Science in Public Health and Doctor of Science in Public Health.

#### I.—BACHELOR OF SCIENCE.

II. Candidates for the degree of B.Sc. in Public Health must be graduates in Medicine of a University of the United Kingdom, or of some other University recognised for the purpose by the University Court of the University of Edinburgh.<sup>1</sup>

III. Candidates must be matriculated for the year in which they appear for examination or graduation.

#### (A)—First Examination.

IV. Candidates for the degree of B.Sc. in Public Health, before proceeding to the first examination, must produce evidence (I) that, after their graduation in Medicine, they have worked for at least twenty hours per week during a period of not less than eight

<sup>1</sup> *Universities specially recognised under this section:*—The University of Würzburg; McGill University, Montreal; University of Harvard, U.S.A., 14th Oct. 1899; Queen's College, Kingston, Ontario, Canada, 18th December 1899.

months, of which at least five consecutive months must be in the Public Health Laboratory of the University of Edinburgh, and the remainder in the foresaid Laboratory, or in a Public Health Laboratory recognised for the purpose by the University Court;<sup>1</sup> and (2) that they have attended in the University of Edinburgh or any other Scottish University, in addition to the course of lectures in Physics qualifying for graduation in Medicine, such further course in Physics as the Senatus Academicus, with the approval of the University Court, shall deem necessary, and such a course of lectures in Geology, extending over not less than three months, as the Senatus with the like approval shall deem sufficient and appropriate.

The Courses in this University which at present qualify in Physics and Geology are Professor Tait's or Dr Knott's Course in Physics, and Professor Geikie's Winter or Summer Course in Geology.

(B)—*Second Examination.*

V. Candidates for the degree of B.Sc. in Public Health are not admitted to the second examination for the degree sooner than eighteen months after having taken their degree in Medicine, nor sooner than six months after having passed their first examination for the degree of B.Sc. in Public Health, and they must have attended two separate courses in Public Health in the University of Edinburgh, or in any University of the United Kingdom, or any Indian, Colonial, or Foreign University recognised for the purpose by the University Court, or in such Medical School or under such teacher as may be recognised or approved for the purpose by the University Court, each course consisting of forty lectures at least; one of these courses shall deal with Medicine and the other with Engineering, each in its relation to Public Health, in such manner as the Senatus Academicus, with the approval of the University Court, shall determine.

They must also give evidence (1) that for six months they have practically studied sanitary work under the Medical Officer of Health of a county or burgh or district, containing a population of not less than 25,000; (2) that they have had three months' clinical instruction regarding fevers and infectious diseases in a hospital recognised as suitable for the purpose by the University Court; and (3) that they have had three months' instruction in Mensuration and Drawing under a teacher recognised for the purpose by the University Court.

<sup>1</sup> *Public Health Laboratories and Teachers recognised under this section:—*

Mason University College, Birmingham,	{ E. Percy F. Frankland, Ph.D., October 1894.
Liverpool School of Science and Technology,	{ George Tate, Ph.D., 15 June 1891.
King's College, London,	{ W. R. Smith, M.D., D.Sc., November 1891.
University of Aberdeen,	{ Professor Matthew Hay, M.D., 15 February 1891.
Pasteur Institute, Paris,	{ 22 October 1892.
University of Cambridge,	{ 13 December 1897.



The lectures in this University which qualify are—(1) Advanced Course of Public Health and Sanitary Science by the Professor of Public Health; and (2) the course of instruction (Theoretical and Practical) in Sanitary Engineering and Building Construction by the Professor of Engineering, and the Class of Mensuration and Drawing by the Lecturer on Drawing.

VI. There is a first examination for the degree of B.Sc. in Public Health in (1) Laboratory Work, the examination being practical, written, and oral; (2) in Physics; and (3) in Geology, if an examination in Physics or Geology, as the case may be, qualifying for graduation either in Science or Arts has not previously been passed by the candidate.

VII. There is a second examination, written, oral, and as far as possible practical, for the degree of B.Sc. in Public Health in the following subjects, included in the course of instruction in Public Health—viz. (1) Sanitation, (2) Sanitary Law, (3) Vital Statistics, and (4) Medicine in its bearings on Public Health, and the examinations in these subjects are taken at one time. The examination in Sanitation, provided for under this section, shall include Reports by the candidates on Dwellings, Workshops, Hospitals, and Sanitary Schemes generally.

VIII. The Board of Studies for the Faculty of Science from time to time, with the approval of the Senatus, determines and announces the character of the instruction to be given in the Laboratory, and fixes the standard of the examinations. [See also Ordinance 12, Section VI., Sub-section (3), and Ordinance 42, Section VIII.].

IX. It is competent for the University Court, after consultation with the Senatus, to modify from time to time the provisions as to the work and instruction hereinbefore specified as necessary for graduating in Science in Public Health, in case such modification may be rendered desirable by the development of the Science of Public Health, or by increase of the facilities provided in the said University or elsewhere for the study of any branch of the said Science.

## SCHEDULES OF THE SUBJECTS OF EXAMINATION.

### LABORATORY WORK.

(1.) *Examination of Water.*—Physical Properties, Chemical Properties, Microscopical Appearances, Pollution of Potable Waters.

(2.) *Examination of Air.*—Temperature, Pressure, Humidity; Carbonic Acid, Ozone, Micro-organisms, Organic Matter, Noxious Emanations.

(3.) *Examination of Foods.*—Milk, Butter, Butterine, or Oleomargarine, Flour, Bread, Starchy foods, Sugar, Honey, Butcher meat, Fish, Vegetables.

(4.) *Examination of Beverages.*—Tea, Coffee, Cocoa, Alcoholic Beverages, Aërated Waters.



(5.) *Examination of Condiments.*—Salt, Pepper, Mustard, Vinegar, and Preserves ; Examination of Lime Juice. Nutritive Value of Dietaries.

(6.) *Sewage.*—Examination of sewage and of effluents after treatment.

(7.) *Soils.*—Temperature, Humidity, Permeability, Chemical Composition, Gases of the Soil, Micro-organisms.

(8.) *Disinfectants and Deodorisers.*—Chemical Examination of the Materials, Determination of their comparative power.

(9.) *Building Materials.*—Chemical and Physical Properties.

(10.) *Clothing.*—Physical Properties of Clothing Materials.

(11.) *Bacteriology.*—Micro-organisms in relation to Epidemic and other Diseases. Culture and recognition of Pathogenic and Non-Pathogenic, Aerobic and Anaerobic, Micro-organisms.

#### PHYSICS.

(1.) *Laws of Motion and Properties of Matter.*—Elasticity, Density, Porosity, Divisibility, Viscosity, &c.

(2.) Elements of Dynamics of Solid and Fluid Bodies ; Tides.

(3.) Elementary Experimental Facts regarding Energy in the common phenomena of Sound, Light, Heat, Electricity, and Magnetism.

#### GEOLOGY.

(1.) *Dynamical Geology.*—The nature and operation of Geological agents :—The Atmosphere, Rain, Underground Water, Rivers, Ice, the Sea, Plants and Animals, Volcanoes, Movements of the Earth's Crust.

(2.) *Mineralogy and Petrology.*—Characters of the more common and widely-distributed minerals and rocks.

(3.) *Structural Geology.*—The structure of rock-masses, more especially Bedding, Joints, Faults, Intrusive Rocks. Water-supply and Draining in connection with Geological Structure. Nature and Origin of Soils and Sub-Soils.

#### EPIDEMIOLOGY [MEDICINE IN ITS RELATION TO PUBLIC HEALTH].

The Causes of Endemic and Epidemic Diseases, as well as of Epizootics ; of the Contagious or Infectious Diseases ; and of those incidental to particular trades, or otherwise produced by the surroundings of the patient. Prophylaxis. Immunity. Vaccination against disease. Nature and Value of Vaccines.

#### SANITATION.

(1.) *Site, Environment, and Construction of Dwellings.*—Influence of Position, Aspect, and Climate ; Meteorological and Geological Conditions ; Soil and Drainage ; Elements of Building Construction.

(2.) *Water Supply.*—Quantity per head ; Relative Eligibility of available Sources of Supply ; Estimation of yield ; Methods of utilising various Sources of Supply ; Storage, Subsidence, and Filtration ; Distribution—(a) General, (β) Domestic ; Causes, Detection, and Treatment of contaminated Supply.

(3.) *Air Supply.*—Quantity and Temperature, with knowledge of use of instruments employed in their Measurement ; Causes and Detection

of Impurities ; Warming and Ventilation ; Characteristics and Fitness of various methods in use.

(4.) *Excreta, Refuse, and Sewage.*—Character and Quantity of in (a) Urban, (β) Rural Districts—

A. Collection and Removal from (1) the Dwelling, (2) the Town or Village ; Nature, Practical details, and maintenance of the several methods employed.

B. Disposal: (1) Sanitary, (2) Insanitary methods ; Precipitation, Filtration, Irrigation, Discharge ; General details of necessary works.

(5.) *General Structural and Mechanical Details of Sanitary Works.*—Character, Fitness, and Qualities of Materials (Brick, Cement, Earthenware, Iron, Lead) ; Design, setting out, and laying of Sewers ; Plumbing and Iron-work.

(6.) *Hospitals.*—Principles of Design and Construction.

(7.) *Infectious and Epidemic Diseases.*—Origin, Modes of Propagation, and Means of Prevention ; Epizootics.

(8.) *Disinfectants.*—Selection and application.

(9.) *Effects of Insanitary Conditions.*—Insufficient house accommodation, Vitiating of Air, Impure Water, Bad or insufficient Food.

(10.) *Unhealthy Occupations.*—Means of mitigating or removing their unhealthiness.

(11.) *Nuisances.*—Urban, Rural, and Domestic.

(12.) *Disposal of the Dead.*—Burial, Cremation.

*N.B.*—Candidates are required to be able to interpret plans submitted to them, and to illustrate their answers when necessary by sketches.

#### SANITARY LAW.

1. Sanitary Administration. Laws affecting Factories, Workshops, Mines, Common Lodging-houses, Removal of Refuse, Nuisances, Rivers Pollution, Alkali Works, Burial Grounds, Unwholesome Food, Adulteration of Food and Drugs. Sale of Poisons.

#### VITAL STATISTICS.

2. Methods of estimating Population. Death, Birth, and Marriage Rates. Mortality as affected by Age, Sex, and Occupation. Case Mortality. Life Tables.

NOTE.—In making calculations, the Candidate will be expected to understand the use of Logarithms, the Slide Rule, and Arithmometer.

### II.—DOCTORATE OF SCIENCE.

X. Graduates who have held the degree of B.Sc. in Public Health from the University of Edinburgh for a term of five years may offer themselves for the degree of D.Sc. in Public Health in the said University.

XI. Candidates for the degree of D.Sc. in Public Health must present a thesis, or a published memoir or works,<sup>1</sup> to be approved by the

<sup>1</sup> The Thesis must be lodged on or before 1st December, and the Subject of Examination must be submitted to the Dean before 20th January. The Examination will take place about the end of March.

Senatus, on the recommendation of the Faculty of Science, and are required to pass an examination in Public Health, and in such of its special departments as the Senatus, with the approval of the University Court, may determine. [Candidates for D.Sc. in Public Health may appear for examination in any one of the departments of knowledge required for the degree of B.Sc. in Public Health. They are required to submit the subject in which they propose to be examined for approval at least two months before the date of the Examination.<sup>1</sup>]

The theses, or published memoirs or works, must be records of original research undertaken by the candidates, and must be accompanied by a declaration, signed by them, that the work has been done and the theses or memoirs composed by themselves.

#### GENERAL.

XII. Candidates who produce certificates that they have satisfied all the conditions prescribed by this Ordinance, and who have passed the necessary examinations, are entitled to receive the degrees of B.Sc. in Public Health and D.Sc. in Public Health, as the case may be, on payment of the fees required.

XIII. Students who, at the time when these Regulations come into operation, have completed a part of their course of study with a view to graduation in Science in Public Health in the University of Edinburgh, under regulations in force at the time therein, and thereafter completes the course of study and passes the necessary examinations in conformity with such regulations, or with the provisions hereof may become candidates for the degree of B.Sc. in Public Health.

XIV. The degrees of B.Sc. and D.Sc. in Public Health are in no case conferred on persons who have not complied with the conditions hereinbefore set forth, and are not conferred *honoris causâ tantum*.

### IV.—AGRICULTURE.

#### REGULATIONS AND CURRICULUM FOR GRADUATION IN AGRICULTURE.

*Candidates who began attendance on Qualifying Science Classes before 1st October 1893, are referred to CALENDAR 1895-96, or to previous CALENDARS.*

I. A degree of Bachelor of Science in Agriculture is conferred by the University of Edinburgh.

#### I. PRELIMINARY EXAMINATION.

II. Every candidate for the degree of B.Sc. in Agriculture must pass the Preliminary Examination<sup>2</sup> prescribed for Degrees in Pure Science; and the conditions imposed with respect thereto by the said Regulations are applicable in all respects to the Degree in Agriculture, except as follows:—The Preliminary Examination must be passed

<sup>1</sup> See page 231.

before the candidate presents himself for any part of the First Science Examination, but not necessarily before the candidate enters on his curriculum.

#### COURSES OF INSTRUCTION.

III. (1) Candidates must, in the course of not less than three Academical years (*i.e.* three Winter Sessions, or two Winter Sessions and three Summer Sessions), attend at least eleven courses of instruction in subjects prescribed for examination under Section VIII. hereof.

(2) It is the duty of the Senatus to determine from time to time which of the said courses are full courses and which are half courses respectively, and also to determine the number of meetings of which such full courses and half courses respectively shall consist, and to report its determination to the University Court for its approval.

IV. (1) Five full courses or their equivalent (counting two half courses as one full course) must be taken in the University of Edinburgh, and must include the course in Agriculture and Rural Economy.

(2) The remainder of the said courses may be taken in other Universities or Institutions approved by the University Court, or under teachers recognised by the University Court for purposes of graduation in Science in Agriculture :<sup>1</sup> Provided that the fees for attendance at an approved Institution in Edinburgh or under a recognised teacher there must not be less than the fees exigible for the corresponding courses in the University of Edinburgh.

(3) Residence and practical work at a farm is required of each candidate to such an extent and under such regulations as the Senatus, with the approval of the University Court, may from time to time appoint.<sup>2</sup>

V. The University Court may make regulations to enable candidates, not matriculated students of the University of Edinburgh, availing themselves of the permission to attend lectures at approved Institutions or by recognised teachers in Edinburgh, to obtain, on payment of a fee not exceeding in amount the matriculation fee paid by the students of the University, a right to the use of the Library of the University.

VI. (1) It is the duty of the Professors and Lecturers annually, at the end of each winter session, to submit to the Senatus a scheme specifying what proportion of the courses is to be devoted to lectures, practical demonstrations, examinations, and tutorial work respectively. The Senatus transmits such scheme, with such observations as it may think fit to make thereon, to the University Court for its approval.

(2) It is the duty of the Professors and Lecturers annually at the end of each winter session to submit to the Faculty of Science, for its consideration, a syllabus of the subjects and books proposed for the work of their classes during the next Academical year. The Faculty of Science transmits such syllabus, with such observations as it may think fit to make thereon, to the Senatus for its approval.

<sup>1</sup> See footnotes 1 and 2, page 233.

<sup>2</sup> Residence and Practical work at a farm must be not less than twelve months.

VII. The provisions of the preceding section do not apply to approved institutions or recognised teachers outside Edinburgh; but the University Court will not grant or continue recognition to any Institutions or teachers unless it is satisfied that their courses of instruction are equivalent to the courses sanctioned in the University of Edinburgh, where such exist.

VIII. The subjects of study are as follows<sup>1</sup> :—

1. Mathematics, or Biology (*i.e.* Zoology and Botany).
2. Natural Philosophy.
3. Chemistry.
4. Agriculture and Rural Economy.
5. Agricultural Chemistry.
6. Geology.
7. Veterinary Hygiene.
8. Agricultural Entomology.
9. Economic Science as applied to Agriculture.
10. A course in one of the following :—(a) Forestry; (b) Experimental Physics; (c) Engineering.
11. Engineering Field Work.

## II. SCIENCE EXAMINATIONS.

### (a) *First Science Examination.*

IX. (1) There is a First Science Examination in the three following subjects—viz. (1) Mathematics, or Biology (*i.e.* Zoology and Botany); (2) Natural Philosophy; (3) Chemistry.

(2) The examination in all these subjects is the same as the examination in these subjects for the degree of B.Sc. in Pure Science, as specified in the Regulations therefor.

The following courses in this University qualify for the First Science Examination in Agriculture :—

1. (1) Senior Mathematics of 100 Lectures, as for the degree in Pure Science, or (2) Biology (Zoology, Botany) as for Pure Science.
2. Natural Philosophy, as for Pure Science.
3. Chemistry, full course, including Practical Chemistry, as for Pure Science.

(3) Candidates may present themselves in any one or more of the subjects of the First Science Examination at any examination held after they have attended a full course in the subject or subjects professed.

### (b) *Final Science Examination.*

X. (1) There is a Final Science Examination in the remaining subjects (4 to 11 inclusive) specified in Section VIII. hereof.

(2) Candidates may present themselves in any one or more of these subjects at any examination held after they have passed the whole of

<sup>1</sup> See footnotes 1 and 2, page 233.



the subjects comprised in the First Science Examination, and have attended the required courses in the subjects professed.

The following courses qualify for the Final Science Examination in Agriculture :—

1. Agriculture and Rural Economy—Full course of about 100 Lectures and 10 Field Demonstrations.

2. Agricultural Chemistry—Full course (including Lectures and Practical Work) of about 100 hours.

3. Geology—Half-course of 25 Lectures, 10 Demonstrations in Laboratory, and 8 Field Demonstrations.

4. Veterinary Hygiene—Half-course of about 50 Lectures.

5. Agricultural Entomology—Half-course of about 20 hours.

6. Economic Science, as applied to Agriculture—Half-course of about 50 Lectures—the Political Economy Class in Arts till Christmas.

7. A course in one of the following :—

(a) Forestry—Full course of about 100 Lectures.

(b) Experimental Physics—Full Laboratory course of 100 hours.

(c) Engineering—Full course of about 100 hours.

8. Engineering Field Work :—Half-course, extending over three weeks, 75 hours—Lectures, Drawing Office, and Field.

XI. If a student, before passing the Preliminary Examination, has attended a class qualifying for graduation, the Senatus may, on special cause shown, permit him to count such class for graduation, on condition of his passing the full Preliminary Examination within such time thereafter as the Senatus may appoint, and in every such case the Senatus reports to the University Court the reasons for the relaxation.

XII. A candidate for the degree of B.Sc. in Agriculture shall not be deemed to have attended a class as part of the curriculum for that degree who does not present a certificate bearing not only that he has given regular attendance, but also that he has duly performed the work of the class.

#### GENERAL.

XIII. Candidates who produce certificates that they have satisfied all the conditions prescribed by these Regulations, and who have passed the necessary examinations, will be entitled to receive the degree of B.Sc. in Agriculture, on payment of the fees required.

XIV. A student who, at the time when these Regulations came into operation, had completed a part of his course of study with a view to graduation in Science in Agriculture in the University of Edinburgh, under regulations in force at the time therein, and who thereafter completes his course of study and passes the necessary examinations in conformity with such regulations, or with the provisions of these Regulations, may become a candidate for the degree of B.Sc. in Agriculture.



XV. The degree of B.Sc. in Agriculture shall in no case be conferred on persons who have not complied with the conditions hereinbefore set forth, and shall not be conferred *honoris causâ tantum*.

## OUTLINE OF SUBJECTS OF EXAMINATION.

### FIRST BACHELOR OF SCIENCE EXAMINATION.

1. (a) MATHEMATICS, or (b) BIOLOGY (*i.e.* ZOOLOGY and BOTANY).
2. NATURAL PHILOSOPHY.
3. CHEMISTRY, including Practical Chemistry.

The Examinations are the same as for the First B.Sc. in Pure Science.

### FINAL BACHELOR OF SCIENCE EXAMINATION.

#### 1. AGRICULTURE AND RURAL ECONOMY : ITS SCIENTIFIC PRACTICE.

1. *Definition of Agriculture.*—Aid given by the Allied Sciences.
2. *Surface Geology.*—Formation and Classification of Soils—their Physical and Chemical Properties. Importance of Organic Nitrogen. Indications of good or bad Soils—the Methods of Management.
3. *Drainage and Cultivation.*—Practice and Advantages of Drainage—Irrigation—Wet-Warping—Mixing or Top-Dressing—Claying—Marling—Chalking—Liming—Paring and Burning—Clay-Burning. The Effect on Soils of Cultivation and the Growth of Plants.
4. *Implements and Machines of the Farm.*—The Importance of their proper Construction and Careful Management.
5. *Steam Cultivation.*—Its Advantages and Disadvantages.
6. *The Motive Powers Employed on the Farm.*—1st, Man ; 2d, Horse ; 3d, The Mechanical Powers (Water, Wind, and Steam)—their Comparative Values and Advantages.
7. *Farm Servants.*—Their Labour and Wages—Day-work and Piece-work. Detailed and total costs of Horse and Hand Labour.
8. *The Importance of Rotations.*—Different Rotations and reasons why they are adopted—Systems of Farming.
9. *Our Farm Crops* (Grain, Root, Forage, and Hay Crops).—Their Selection and Growth—Prevention of Insect Injuries and Diseases.
10. *Identification of Grasses and other Valuable Pasture Plants.*—Character and Habits of those of importance—Detection of Adulterations.—Regulations necessary to protect the Farmer in buying Seeds.

11. *The Management of Permanent Pasture.*—Proper Methods of making new Pasture—its After-treatment.

12. *Weeds in Pastures* and Means of Destroying them.

13. *Silage and the System of Ensilage.*—Its Advantages, &c.—Its Suitability and Unsuitability according to Locality.

14. *Manures.*—Farm-yard Manure—its proper Mixing, Storing, and Application—its great advantage as a General Manure. Special Manures and so-called Artificial—their Uses, Abuses, and Adulterations—the proper Times and Methods of their Application. The Value and Use of Liquid Manure and Town Sewage.

15. *Buildings and Fences.*—The proper Construction of Fences—the General Arrangement of Farm-Buildings—the best Flooring and Inside Plans and Dimensions of Byres, Cattle-Sheds, Stables, &c.—Covered Yards—Ventilation—Drainage of Houses and Farm-yards.

16. *Live-Stock, embracing Cattle, Pigs, Horses, Sheep.*—The Various Breeds of each, and suitability of some to Local Conditions—"The Principles of Breeding." Feeding and Management—Cost of Feeding—Proper Mixtures of Food to Use. Cost of the Production of a Stone of Beef, Mutton, and Pork, showing the Amount of Profit in each Case.

17. *Dairying in all its Branches,* including the suitability or otherwise of surrounding Conditions—the proper Classes of Dairy Stock to keep, and their Management—the Treatment of Milk, and its Sale or Manufacture into Cheese, Butter, &c.

18. *Feeding Stuffs.*—Suitability of the Common Food Substances to the Different Classes of Farm Stock—The Purchase, Storing, and Administration of the same—their Manurial Residues.

## 2. AGRICULTURAL CHEMISTRY.

1. *Atmosphere.*—Relation of its Constituents and Conditions to Plant Life.

2. *Soils.*—Origin, Formation, Composition, Biology, Amelioration.

3. *Plants.*—Constituents, Germination, Nutrition, Maturation, Sym-biosis.

4. *Manures.*—Nature, Uses, Application, Valuation, Compatibility, Exhaustion.

5. *Crops.*—Classification, Relation, Preservation, Uses as Fodder, Residual Value.

6. *Animal Nutrition.*—Nutritive Processes, Laws of Flesh and Fat Production, Digestibility of Fodders, Nutrient Ratio, Relation of Food to Work and to Manure.

7. *Dairy.*—Composition of Dairy Products, Circumstances affecting Quantity and Quality, Scientific Management.

Tests for the detection of Potassium, Sodium, Ammonium, Magnesium, Calcium, Aluminium, Iron, Arsenic, Antimony, Copper, Lead, Mercury.

Sulphate, Sulphite, Sulphide, Phosphate, Carbonate, Nitrate, Chloride, Acetate, Oxalate, Tartrate, Citrate.

Sugars, Starches, Fats, Proteids.

Chemical, Physical, and Microscopic Tests for Adulteration in Manures, Feeding Stuffs, and Dairy Produce.

Methods of determining of Clay, Sand, Carbonates, Humus, and Moisture in Soils.

Phosphoric Acid, Potash, Nitrogen, Lime, Magnesia, Insoluble Matter and Moisture in Soils and Manures.

Albumen, Amides, Fat, Carbohydrates, Woody Fibre, and Ash in Fodders.

### 3. GEOLOGY.

(1) *Physical Geography and Dynamical Geology*.—The nature and operation of Geological agents:—The Atmosphere, Rain, Underground Water, Rivers, Ice, the Sea, Life, Earthquakes, Volcanoes, Movements of Upheaval and Depression.

(2) *Mineralogical and Petrological Geology*.—Characters of the principal Rock-forming Minerals: Composition, Origin, and Distribution of the more important and commonly occurring Rocks.

(3) *Structural Geology*.—The Structure of Rock-masses, more especially Bedding, Joints, Faults, and Denudation.

(4) *Agricultural Geology*.—Nature and Origin of Soils and Subsoils; Draining in connection with Geological Structure; Mineral substances used as Manures.

### 4. VETERINARY HYGIENE.

1. The Comparative Osteology (rudimentary) of the Horse, Ox, and Sheep.

2. The Physiology of Dentition in Horse, Ox, Sheep, and Pig, more especially as indicative of the Age of the Animal.

3. The Physiology of Gestation; the Diseases incidental to the pregnant state, and also those consequent to the act of parturition.

4. Description of the Digestive Organs of the Horse, Ox, and Sheep (separately), also their Physiology, and most ordinary Diseases.

5. Contagious and other Diseases of Farm Stock. Prevention and Treatment of Diseases.

### 5. AGRICULTURAL ENTOMOLOGY.

Insect pests of cultivated plants and of farm live stock. Methods of prevention of, and of remedy for, their attacks. Classification of insects, and details of their structure and life history, in so far as of economic importance.

## 6. ECONOMIC SCIENCE.

See Syllabus in Arts. First Half of Course.

## 7. (a) FORESTRY.

1. *Sylviculture*.—Atmosphere, Climate, and Soil, as affecting Forest Vegetation ; shape and development of forest trees ; pure and mixed woods ; the sylvicultural systems ; formation and tending of woods.

2. *Injuries to Standing Woods and their Protection*.—Winds and storms, fires, animals, fungi, weeds, frost, snow, drought, &c.

3. *Utilisation of Produce*.

4. *Structure, Classification, and Technical Properties of Timber*.

5. *Forest Organisation*.—The principles on which working plans are based.

6. *Uses and Effects of Forests*.

## 7. (b) EXPERIMENTAL PHYSICS.

The Measurement of Physical Constants, such as—Gravitation, Specific Gravity, Specific Heat, Conductivity, Dilatation, Refractive Index, Magnetic and Electric Quantities, &c.

## 7. (c) ENGINEERING.

1. *Mechanics*.—(a) Principles of Statics ; couples ; moments of forces ; parallel and inclined forces ; centre of gravity ; moments of inertia ; friction, (b) Principles of Kinematics and Kinetics ; Newton's laws of motion ; Conservation and transformation of energy.

2. *Strength and Properties of Structural Materials*, including their fitness and adaptability, together with some knowledge of their cost.

3. *Strength and Stability of Structures*.—General knowledge of the design, construction, and maintenance of Roads, Roofs, Bridges, Embankments, Retaining Walls, Aqueducts, and General Buildings.

4. *Hydraulics*.—The laws governing the flow of water in open and closed channels, and its discharge through orifices ; Systems of Drainage and Irrigation ; Pumps, &c.

5. *Mechanism and Machinery*.—General Principles and means of transmission, conversion, and modification of motion ; general millwright work with special reference to the machines ordinarily employed for agricultural purposes.

6. *Prime Movers*.—A knowledge of the sources and modes of estimating power ; The Steam Engine ; Pneumatic Machines ; Hydraulic Motors, Water-wheels, Turbines, &c.

## 8. ENGINEERING FIELD WORK.

Surveying, with special reference to Estate and Parish Surveying, Levelling, Gauging of Streams and Rivers, Plotting of Surveys and Sections, Setting out of Work, and Calculation of Quantities.

## FEES FOR EXAMINATIONS FOR DEGREES.

## 1. PRELIMINARY EXAMINATION.

The Fee is 10s. 6d. for each appearance.

## 2. FEES FOR EXAMINATIONS OR FOR REGISTERING EQUIVALENTS.

(1) *Pure Science and Engineering—*

First B.Sc. Examination, . . . . .	£3	3	0
(or for each subject, £1, 1s.)			
Second B.Sc. Examination, . . . . .	3	3	0
Doctor of Science, . . . . .	10	10	0
	<u>£16</u>	<u>16</u>	<u>0</u>

(2) *Public Health—*

First B.Sc. Examination, . . . . .	£3	3	0
Second B.Sc. Examination, . . . . .	3	3	0
For the Degree of Doctor, . . . . .	10	10	0
	<u>£16</u>	<u>16</u>	<u>0</u>

(3) *Agriculture—*

First B.Sc. Examination, . . . . .	£3	3	0
(or for each subject, £1, 1s.)			
Second B.Sc. Examination, . . . . .	3	3	0
	<u>£6</u>	<u>6</u>	<u>0</u>

Candidates for the Degree of B.Sc. who fail to pass pay a fee of 10s. 6d. for re-examination in each subject, and Candidates for D.Sc. pay a fee of £5, 5s. for each re-examination.

Every Candidate for Graduation must pay the Fee of £1 for Registration as a Member of the General Council of the University, at least one clear day before the date of Graduation.

All communications relating to the Curriculum and Examinations for Degrees, Fellowships, Scholarships, &c., in Science should be addressed to *The Dean of the Faculty of Science, University, Edinburgh.*

All Examination, Matriculation, and Registration Fees are payable at the *Matriculation Office, University.* Candidates may pay the Fees personally, or transmit them to T. GILBERT, by *Post Office*, or *Postal Orders*, or by *Bank Drafts*, crossed "Union Bank of Scotland (Hunter Square Branch), Edinburgh," but not by cheques on private accounts.

# TIME-TABLE OF EXAMINATIONS AND DATES FOR PRESENTING CERTIFICATES AND PAYMENT OF FEES.<sup>1</sup>

*Candidates are required to enter for each periodical examination at which they desire to appear, and to state the subject or subjects in which they desire to be examined.*

The dates of the Examinations for 1900-1901 have been fixed as follows, and Candidates are required to assemble in the Examination Hall at the University a quarter of an hour before the time fixed for examination:—

## PRELIMINARY EXAMINATION.<sup>1</sup>

1900.

Sept. 19.	Wed.	Names to be given in, and Fees paid, <i>on or before</i> this date.
,,	28.	Fri. Italian, 12-1.30, 3-5.
,,	29.	Sat. English, 9-11, 12-2; Lower Greek, 3-6.
Oct. 1.	Mon.	Lower Latin, 9-12.
,,	2.	Tu. Higher Latin, 9-11, 12-2; French, 1st paper, 3-4.30.
,,	3.	Wed. Higher Greek, 9-11, 12-2; German, 1st paper, 3-4.30.
,,	4.	Thur. Higher and Intermediate Mathematics, 9-11, 12-2; French, 2nd paper, 3-5.
,,	5.	Fri. German, 2nd paper, 9-11; Dynamics, 1-4.

1901.

Mar. 1.	Fri.	Names to be given in, and Fees paid, <i>on or before</i> this date.
,,	29.	Fri. Italian, 12-1.30, 3-5.
,,	30.	Sat. English, 9-11, 12-2; Lower Greek, 3-6.
April 1.	Mon.	Lower Latin, 9-12.
,,	2.	Tu. Higher Latin, 9-11, 12-2; French, 1st paper, 3-4.30.
,,	3.	Wed. Higher Greek, 9-11, 12-2; German, 1st paper, 3-4.30.
,,	4.	Thur. Higher and Intermediate Mathematics, 9-11, 12-2; French, 2nd paper, 3-5.
,,	5.	Fri. German, 2nd paper, 9-11; Dynamics, 1-4.

<sup>1</sup> When names are not entered, nor fees paid, on or before the stated dates, or a Pass obtained where the fee has been previously paid, a late-entry fee of ten shillings must be paid before the Candidate can be admitted to examination. This fee will not be received after Twelve o'clock of the last day but one preceding the Examination for which the Candidate desires to appear, without the express permission of the Dean of his Faculty and the subsequent sanction of the Senatus. A Candidate must enter his name and pay the fee, or, when the fee has been previously paid, obtain a Pass, for each periodical Examination at which he desires to appear. A Candidate is not held to be entered until his Schedule is lodged, the Fee paid, and a Pass to the Examination obtained.



FIRST SCIENCE EXAMINATION.<sup>1</sup>

1900.

- Oct. 4. Thur. Names to be given in, Certificates shown, and Fees paid, *on or before* this date.  
 „ 11. Thur. Mathematics, 9-11, 11.30-1.30; Natural Philosophy, 2.30-4.30.  
 „ 12. Fri. Natural Philosophy, 9-11; Mathematics for Engineering, 11.30-1.30, 2.30-5.30.

1901.

- Mar. 5. Tu. Names to be given in, and Fees paid, *on or before* this date.  
 „ 22. Fri. Certificates to be examined from 10-3.  
 „ 23. Sat. Practical Chemistry, at hours to be announced (also on subsequent days if necessary).  
 „ 25. Mon. Chemistry, 10-12; Oral Examination may begin; Laboratory Work (Public Health), 10-12; Physics (Public Health), 1-3.  
 „ 26. Tu. Botany, 10-12; Zoology, 1-3; Geology (Public Health), 1-3.  
 „ 27. Wed. Practical Work in Public Health Laboratory begins.  
 April 3. Wed. Mathematics, 3-5.  
 „ 4. Thur. Mathematics, 9-11; Drawing (Geometrical), 9-12.  
 „ 5. Fri. Natural Philosophy, 9-11, 11.30-1.30.  
 July 5. Fri. Names to be given in, and Fees paid, *on or before* this date.  
 „ 17. Wed. Certificates to be examined from 10-3.  
 „ 18. Thur. Practical Chemistry at hours to be announced (also on subsequent days if necessary).  
 „ 19. Fri. Chemistry, 10-12; Oral Examination may begin. Laboratory Work (Public Health), 10-12; Physics (Public Health), 1-3.  
 „ 20. Sat. Botany, 10-12; Zoology, 1-3; Geology (Public Health), 1-3.  
 „ 22. Mon. Practical Work in Public Health Laboratory begins.

FINAL SCIENCE EXAMINATION.<sup>1</sup>

1900.

- Oct. 4. Thur. Names to be given in, Certificates shown, and Fees paid, *on or before* this date.  
 „ 12. Fri. Zoology, 9-12 (1st paper), 1-3 (2nd paper); Practical Examination at time to be arranged.  
 „ 13. Sat. Astronomy, 9-12 (1st paper), 1-3 (2nd paper).

1901.

- Mar. 5. Tu. Names to be given in, and Fees paid, *on or before* this date.

<sup>1</sup> See footnote, page 264.

1901.

Mar.	21.	Thur.	Certificates to be examined ; Economic Science (Agriculture), 5-7.
,,	25.	Mon.	Botany, 9-12 (1st paper), 1-3 (2nd paper) ; Pract. Exam. at time to be arranged ; Vet. Hygiene, 1-3.
,,	27.	Wed.	Medicine (Public Health), 10-12 ; Sanitary Law, 1-3 ; Vital Statistics, 4-6.
,,	28.	Thur.	Sanitation, 10-12, 1-4. Oral and Pract. Exam. at times to be arranged. Geology (Agric. and Engineering), 1-3.
,,	29.	Fri.	Physiology, 9-12 (1st paper), 1-3 (2nd paper) ; Practical Examination at time to be arranged.
,,	29	Fri.	Agriculture, 9-12 ; Agricultural Chemistry, 1-3 ; Practical Examination in Agricultural Chemistry, at time to be arranged.
April	3.	Wed.	Mathematics, 9-12, 2-5 ; Engineering, 9-11, 3-5.
,,	4.	Thur.	Mathematics, 9-12 ; Natural Philosophy, 2-5 ; Engineering, 9-12 ; Engineering Field - Work (Agriculture), 3-5 ; Dynamics (Engineering), 2-5.
,,	5.	Fri.	Natural Philosophy, 9-12, 2-5 ; Engineering, 9-11 ; Engineering (Agriculture), 9-11 ; Ex- perimental Physics (Agriculture), 3-5.
,,	6.	Sat.	Experimental Physics, 9-12 ; Agricultural Entomology, 9-11 ; Forestry, 11.30-1-30 ; Drawing (Engineering), 9-12, 2-5.
July	5.	Fri.	Names to be given in, and Fees paid, <i>on or before</i> this date.
,,	17.	Wed.	Certificates to be examined.
,,	19.	Fri.	Chemistry, 9-12 (1st paper), 1-3 (2nd paper) ; Practical Examination at time to be arranged.
,,	20.	Sat.	Geology, 9-12 (1st paper), 1-3 (2nd paper) ; Practical Examination at time to be arranged.
,,	22.	Mon.	Human Anatomy (including Anthropology), 9-12 (1st paper), 1-3 (2nd paper) ; Practical Examination at time to be arranged.

DOCTOR OF SCIENCE.<sup>1</sup>

D.Sc. Candidates are required to lodge their Theses and proof of their eligibility with the *Dean of the Faculty of Science* at the Matriculation Office, and to pay the Fees on or before 1st December.

Candidates for D.Sc. in Public Health are required to intimate the subjects in which they desire to be examined to the Dean before 20th January. The examination will take place about the end of March.

<sup>1</sup> See footnote, page 264.

## Degrees in Science.

### DOCTORS OF SCIENCE.

The names of the Doctors of Science previously to 1889, will be found in the Historical Appendix to List of Graduates published in 1889, pp. 132-134. The following are the names of the Doctors from 1889 to 1900, both years included :—

#### IN PURE SCIENCE.

- |  |   |
|--|---|
| 1889. Thomas Rhymer Marshall.                  | 1896. John Charles Mitchell,<br>B.Sc.             |
| 1890. Alex. Crichton Mitchell.                 | 1897. Frederick Beddow, B.Sc.                     |
| „ Hugh Marshall.                               | „ Alexander Morgan, M.A.,<br>B.Sc.                |
| 1891. William Cossar Mackenzie.                | „ Gregg Wilson, M.A.,<br>B.Sc.                    |
| „ Thomas Smith Murray.                         | 1898. Robert Stewart Mac-<br>Dougall, M.A., B.Sc. |
| 1892. Jacques François Marais,<br>B.A.         | „ Joseph Prokop Pražák,<br>Ph.D., D.Jur.          |
| 1893. John Shields.                            | 1899. John Henderson, B.Sc.                       |
| 1894. Malcolm Laurie, B.Sc.                    | 1900. John Smith Flett, M.A.,<br>B.Sc. (Edin.).   |
| „ Charles Hunter Stewart,<br>M.B., C.M., B.Sc. | „ James Rymer Paterson,<br>B.Sc. (Edin.).         |
| 1895. Arthur Pillans Laurie,<br>B.Sc.          |   |
| 1896. John Carruthers Beattie,<br>B.Sc.        |   |

#### IN ENGINEERING.

1898. John Thomas Nicolson.

#### IN PUBLIC HEALTH.

- |  |  |
|--|--|
| 1890. James Anderson, M.D.                         | 1893. James Buchanan Young,<br>M.B.                |
| „ James Andrew Blair, M.B.                         | 1894. Henry Halcro Johnston,<br>M.D.               |
| „ William John Brock, M.B.                         | „ John Macmillan, M.A.,<br>M.B., C.M.              |
| „ John Stevenson, M.B.                             | „ Charles Templeman, M.D.                          |
| 1892. Charles Henry Bedford,<br>M.D.               | 1898. Walter Holland Ogilvie,<br>M.B., C.M., B.Sc. |
| „ Robt. Wm. Dickinson Mac-<br>Martin Cameron, M.D. | „ Charles Hubert Bond,<br>M.D., B.Sc.              |
| „ Alex. C. Houston, M.B.,<br>C.M.                  | „ Charles Killick Millard,<br>M.D., B.Sc.          |
| „ William George Aitchison<br>Robertson, M.D.      | 1899. John Penny, M.B., C.M.,<br>B.Sc.             |
| 1893. Edward Henry Ezard, M.D.                     |  |
| „ John Howard-Jones, M.B.                          |  |
| „ John Fred. Joseph Sykes,<br>M.B.                 |  |

## Degrees Conferred in 1899-1900.

### THE DEGREE OF DOCTOR OF SCIENCE.

*27th July 1899.*

Thomas Cleghorn Baillie, M.A., B.Sc. *Thesis*—"The Absolute Thermal Conductivity of Nickel."

George Coull, B.Sc. *Thesis*—"The Preparation of Phenyl-betaine."

John Archibald Purves, B.Sc. *Thesis*—"Lighthouse Optics."

*14th April 1900.*

John Smith Flett, M.A., B.Sc., M.B., C.M. (Edin.). *Thesis*—"The Geology of the Orkneys."

James Rymer Paterson, B.Sc. (Edin.). *Thesis*—"The Colour Absorption of Salts and their Solutions."

### THE DEGREE OF BACHELOR OF SCIENCE.

*29th July 1899.*

Sydney Francis Ashby.

\*Charles Edward Fawsitt.

William Mair, M.A.

Donald Menzies, M.A.

John M'Kenzie Newton.

Mowbray Ritchie.

*14th April 1900.*

†Robert Wilson Buchanan, M.A.

Robert Veitch Clark, M.A.

‡David Drysdale, M.A.

David Moncrieff Johnstone, M.A.

Alfred Sutton Millard.

David George Mitchell.

### IN ENGINEERING.

*14th April 1900.*

David Paton Grubb.

Reginald William MacLuckie.

John M'Kenzie Newton, B.Sc. (Pure Science).

\* Passed with Special Distinction in Chemistry.

† Passed with Special Distinction in Anatomy and Anthropology.

‡ Passed with Special Distinction in Mathematics and Natural Philosophy.

IN PUBLIC HEALTH.

29th July 1899.

James Wilson M'Intosh, M.B., C.M.

John M'Naughton, M.B., C.M.

Edward Robert Weir, M.B., Ch.B.

14th April 1900.

Andrew Balfour, M.D.

Charles James Lewis, M.D.

Charles Porter, M.B., C.M.

Reginald Charles Verley, M.B., Ch.B.

IN AGRICULTURE.

29th July 1899.

Alexander Fraser.

14th April 1900.

William Bruce.

| Hugh Charles Sampson.

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**Fellowships, Scholarships, Bursaries, Prizes,  
&c., in Science.**

*I.—FELLOWSHIPS.*

*See note under Scholarships, page 173.*

**I.—THE FALCONER MEMORIAL FELLOWSHIP.**

This Fellowship was founded in 1869 by the Subscribers to the Fund for a Memorial to Hugh Falconer, M.D. (for many years Superintendent of the H. E. I. Company's Botanic Gardens at Suharunpoor and Calcutta), and the Association for the better Endowment of the University, for the encouragement of the Study of Paleontology and Geology. It is of the annual value of £112, and is tenable for two years, but if the Senatus see fit, it may be held for three years, and with consent of the University Court, for four years. It is awarded after competitive examination in Natural History as applied to Paleontology and Geology, and is open to Graduates in Science or Medicine of this University of not more than three years' standing at the time of the competition. It cannot be held along with any other

Fellowship, Scholarship, or Bursary in any Scottish University. The Deed of Foundation will be found at p. 270 of the CALENDAR for 1870-71. The next appointment may be made in July 1901.

1899. *Cecil Burleigh Crampton, M.B., C.M.*

## II.—GEORGE HERIOT'S RESEARCH FELLOWSHIPS.

For particulars apply to DAVID LEWIS, Treasurer, George Heriot's Trust, 20 York Place, Edinburgh; and see under Faculty of Arts.

## II.—SCHOLARSHIPS.

### I.—BAXTER PHYSICAL SCIENCE SCHOLARSHIP.

This Scholarship was founded by Sir David Baxter, Bart., of Kilmaron, in 1865, and is of the annual value of £76, 1s. 2d., tenable for two years. It is awarded, on the result of the Final Examination for the Degree of Bachelor of Science, to the student who is most distinguished in two or more of the Physical Science subjects—viz., Mathematics, Natural Philosophy, Astronomy, Chemistry, either in the year preceding a vacancy, or in the year in which a vacancy occurs. The holder is required to satisfy the Senatus Academicus that he has been pursuing his studies in Science during the first year of his tenure in such a manner as the Senatus may fix. It cannot be held with any other Scholarship, Fellowship, or Bursary, or with any situation yielding an annual income of £100. Next vacancy in 1902.

1900.

### II.—BAXTER NATURAL SCIENCE SCHOLARSHIP.

This Scholarship was founded by Sir David Baxter, Bart., of Kilmaron, in 1865, and is of the annual value of £76, 1s. 4d., tenable for two years. It is awarded, on the result of the Final Examination for the Degree of Bachelor of Science, to the Student who is most distinguished in two or more of the Natural Science subjects—viz., Human Anatomy, including Anthropology; Physiology, including Histology; Geology, including Mineralogy; Zoology, including Comparative Anatomy; Botany, including Vegetable Histology, either in the year preceding a vacancy, or in the year in which a vacancy occurs. The holder is required to satisfy the Senatus Academicus that he has been pursuing his studies in Science during the first year of his tenure in such manner as the Senatus may fix. It cannot be held with any other Scholarship, Fellowship, or Bursary, or with any situation yielding an annual income of £100. Next vacancy in 1902.

1900.

## III.-VIII.—VANS DUNLOP SCHOLARSHIPS.

These Scholarships are each of the annual value of £100, and are tenable for three years. The following are the General Regulations:—



Competitors must have regularly attended at least one full Course or two Half-Courses in the University of Edinburgh during each Academic year in which they claim to have been Matriculated Students, and no Candidate is eligible who has discontinued attendance at the University of Edinburgh for more than one year. The years of Academic study count from the first year in which a Candidate has attended one of the classes qualifying for the degree of B.Sc.

Each Scholarship is tenable for three years, on condition that the scholar submits annually to the University evidence that he is prosecuting his studies or his professional work in a manner satisfactory to the Senatus. The evidence may consist of—(1) A certificate of attendance on lectures or laboratories approved by the Senatus; or (2) a certificate of having acted as an assistant to a Professor in this or some other University; or (3) a written report of his work done during the year, together with a Thesis composed by himself in connection with some part of that work.

Not more than one of these Scholarships can be held by the same person. Scholars cannot hold, along with their Scholarships, any other Fellowship, Scholarship, or Bursary in the University of Edinburgh.

Candidates must, on entering for the Examinations, produce evidence that they have fulfilled the conditions of eligibility.

Candidates, if not already matriculated, are required to pay the Matriculation Fee for the year in which the competition takes place.

The names of Candidates highly distinguished in the examinations may be published.

### III.—MATHEMATICS.<sup>1</sup>

The next Competition will take place in April 1901.

### IV.—NATURAL PHILOSOPHY.<sup>1</sup>

The next Competition will take place in April 1901.

### V.—AGRICULTURE AND RURAL ECONOMY.

This Scholarship is open to all Matriculated Students who have regularly attended classes in this University for not less than two and not more than six years, and who have attended the Class of Agriculture and Rural Economy within one year of the date of Competition. The subjects of Examination are Agriculture, Chemistry, Botany, and Veterinary Science. The next Competition will take place in March 1901.

The Examiners are the Professor of Agriculture and an Examiner nominated by the Senatus.

1898. S. F. Ashby, B.Sc.

### VI.—CHEMISTRY.

(1.) The subjects of Examination are :—(a) Inorganic and Organic Chemistry, and the connection between the Chemical and Physical

<sup>1</sup> For particulars, see "Scholarships" in Faculty of Arts.

character of Substances. (b) Qualitative and Simple Quantitative Analysis of Inorganic Substances, and the Preparation of Pure Chemical Substances. (2) The Examination in subjects (a) is similar, and will be held at the same time as the Second B.Sc. Examination. The Examination in subjects (b) is conducted practically in the Laboratory. (3) The Competition is open to all Students of the University, from the second to the sixth year (inclusive) of their attendance, and will take place in July 1903.

1900.

#### VII.—NATURAL HISTORY, INCLUDING GEOLOGY AND BOTANY.

(1.) The subjects Natural History, Geology, and Botany are coequal in the Examination, and the Examination in each of the three subjects is similar to that for the Second B.Sc. in Pure Science, and consists of two parts—a Written Examination extending over not less than three hours, and a Practical Examination with specimens.

(2.) The next Examination will be held in April 1901, at the same time as the Second B.Sc. Examination.

(3.) The Competition is open to all Students of the University, from the second to the sixth year (inclusive) of their attendance.

1898. *Campbell Brown, M.A., B.Sc.*

#### VIII.—ENGINEERING AND MECHANICAL AND USEFUL ARTS.

The Examination is similar to that for the Second B.Sc. in Engineering, with the addition of questions on prescribed books treating of Engineering and Mechanical and useful Arts.

The Competition is open to all Matriculated Students who have been in regular attendance on the Class of Engineering for at least two Winter Sessions, and who have not been Students of the University for more than four years. The next Competition will take place in April 1903.

The Examiners are the Professors of Engineering and Natural Philosophy.

1900. *David P. Grubb, B.Sc.* } equal.  
*John M. Newton, B.Sc.*

#### IX.—STEVEN SCHOLARSHIP IN AGRICULTURE.

This Scholarship was founded in 1882 by the Misses Steven of Bella-houston in memory of their brother Moses Steven, Esq. It is of the value of £70, and is awarded annually, in connection with the Class of Agriculture, the subjects of examination being Agriculture and General and Agricultural Chemistry.

The Scholar is required to visit the annual exhibitions of the four leading agricultural societies, or such as the Professor of Agriculture shall appoint, and to report on his visit or visits to the satisfaction of

the Professor of Agriculture. The Exhibitions which the Scholar is required to visit are:—

The Royal Agricultural Society of England.

The Bath and West of England Agricultural Society.

The Highland and Agricultural Society of Scotland.

Royal Agricultural Society of Ireland.

*See* Deed of Foundation at p. 397 of CALENDAR for 1882-83.

1900. *John Trotter.*

#### X., XI.—HOPE PRIZE SCHOLARSHIPS.

Two Hope Prize Scholarships have been instituted (with funds formerly of the Hope Chemistry Prize founded by the late Professor Thomas C. Hope) in connection with the Chemical Laboratory of the University, each of the value of about £30 per annum, tenable for one year, and awarded annually at the end of the Winter Session. Each Scholarship is awarded to the student whom the Professor of Chemistry thinks most deserving of those who have worked during that Winter Session in the Chemical Laboratory of the University. The scholars must work during the Summer and Winter Sessions succeeding their appointment in the Chemical Laboratory of the University, and must assist the Professor of Chemistry in such manner as he thinks fit in each case, and the scholars are not required to pay fees for the Laboratory. In case of resignation of a scholar, or of a scholar failing to fulfil the conditions, the Professor of Chemistry may, if he thinks proper, recommend a student working in the Chemical Laboratory for the remainder of the Scholarship so become vacant, the new scholar so appointed to perform the duties and receive the payments during the remainder of the time for which his predecessor was appointed. Scholars may, in case of great distinction, be appointed for a second year.

1900. *James Chalmers and Edwin B. Dawe.*

#### XII.—NEIL ARNOTT SCHOLARSHIP IN EXPERIMENTAL PHYSICS.<sup>1</sup>

Is awarded annually in April.

#### XIII.—THE MACKAY SMITH SCHOLARSHIPS.

These Scholarships were at first intended to have been held in Edinburgh and Glasgow Universities alternately, and were so held in Edinburgh for the Sessions 1883-84 and 1884-85, and in Glasgow for the Sessions 1885-86 and 1886-87. It was, however, afterwards arranged, instead of the Scholarships alternating between the two Universities, that the proceeds of the present investment should be

<sup>1</sup> For particulars, see "Scholarships" in Faculty of Arts.

divided—one half being retained by the University of Edinburgh, and the other half transferred to the University of Glasgow, so that each University now acts independently. The portion of the proceeds at present falling to Edinburgh is £50 annually, which provides one Scholarship in Natural Philosophy and one in Chemistry, each of the annual value of £25, tenable for two years, and to be held under such regulations and conditions as the Senatus may from time to time direct. The Scholarship in Natural Philosophy is open for competition to Students who have attended the Class of Natural Philosophy, and the Scholarship in Chemistry to Students who have attended the Class of Chemistry, both in this University. The successful Candidate for the Scholarship in Natural Philosophy is bound to attend the Class of Natural Philosophy, or to prosecute the study thereof, in the University during at least one year of his tenure of the Scholarship, in such way as the Senatus may direct or approve; and the Scholarship in Chemistry is held under similar conditions as regards attendance on the Class of Chemistry, and the prosecution of the study thereof. The next Competition—Natural Philosophy—will take place at the end of Winter Session 1902, and in Chemistry in July 1903.

1900.

(Chem.). | *William Gentle* (Nat. Phil.).

#### XIV.—ROYAL COMMISSION FOR EXHIBITION OF 1851 PHYSICAL SCIENCE SCHOLARSHIP.

The Commissioners for the Exhibition of 1851 give this University the power of nominating a Student to a Scholarship of £150 a-year, tenable for two years, and which may be extended to three years under the following conditions, viz. (a) That he is a British subject; (b) That he has been a *bona fide* student of Science in this University for three years; (c) That he has been for a full year previous to his appointment, and at the date of his appointment is, a student of the University, or has been a student of the University for a full year ending within twelve months prior to the date of his appointment, and since ceasing to be such student has been engaged solely in scientific study. The Scholarship is limited to those branches of Science (such as Physics, Mechanics, and Chemistry) the extension of which is specially important for the national industries, and may be tenable in any University or other Institution to be approved by the Commissioners. Applications must be made annually not later than the 1st of March. See Regulations, p. 544 of CALENDAR for 1891-92.

#### XV., XVI.—THE ARTHUR TREVELYAN SCHOLARSHIPS IN ENGINEERING.

Two Arthur Trevelyan Scholarships in Engineering, of about £15, 12s. per annum, for proficiency in Engineering and the Mechanical and useful Arts, tenable in this University for two years. Candidates must

not be more than nineteen years of age, must have passed the preliminary examination or its equivalent, and must not have attended more than one Winter and one Summer Course in Engineering and field work respectively, either in this University or elsewhere. The subjects of examination are (*a*) Mathematics, as far as the subjects required for the first B.Sc. examination in Engineering; (*b*) Physics to the same extent; (*c*) Engineering (the subjects of the previous Winter Session and field work); (*d*) geometrical drawing and elementary graphics. See Excerpt from Deed, page 538 of CALENDAR for 1892-93. One Scholarship is awarded annually in March.

1900. *R. G. Russel.*

#### XVII., XVIII.—MISSES BAXTER OF BALGAVIES SCHOLARSHIPS AND BURSARIES.

Under this Endowment there are two Scholarships, of the annual value of £40, and two Bursaries, of the annual value of £30. They are in the gift of the Directors of the High School of Dundee, and are open for competition to all pupils of that school who shall have finished their course at the time, or within one year previously. The examination is held in Dundee by examiners appointed by the Directors, and the subjects are Geometry, Algebra, Trigonometry, and Mechanical Drawing. The Scholarships are tenable for one year certain, and for a second if a favourable certificate is sent to the Directors by the Senatus Academicus, and the Bursaries for two years. The patrons may extend the tenure of these Scholarships for a further period of one year, provided the holder shall have previously passed the First Examination for the Degree of Bachelor of Science in the Department of Engineering in this University. The Classes to be attended during the first two years are Mathematics, Natural Philosophy (two courses), Engineering (two courses), and Chemistry, and may (by resolution of the Senatus), be attended in any order most convenient to the scholar, provided he intimate his intentions to the Dean of the Faculty of Science beforehand. In the event of a third year's tenure, the Scholar may attend any two classes selected by himself and approved by the Senatus.

These Scholarships are not to be held with any other Scholarship, Fellowship, or appointment yielding £50 per annum. See Deeds of Foundation, at page 255 of the CALENDAR for 1869-70, at p. 372 of CALENDAR for 1878-79, and at p. 377 of the CALENDAR for 1881-1882.

#### XIX.—GRAY SCHOLARSHIP FOR RESEARCH.<sup>1</sup>

1899. *John William Eastham, B.Sc.*

<sup>1</sup> For particulars, see under Faculty of Arts.

XX.—THE WILLIAM DICKSON TRAVELLING FUND.<sup>1</sup>

XXI.—EARL OF MORAY ENDOWMENT FOR THE PROMOTION OF ORIGINAL RESEARCH.<sup>1</sup>

XXII.—THE SWINEY LECTURESHIP ON GEOLOGY.

This Lectureship is in the patronage of the Trustees of the British Museum, and is of the annual value of £144. The Trustees may appoint any Graduate in any Faculty of the University who has obtained his degree after examination. The office is tenable for five years, at the expiration of which period the Lecturer is ineligible for the next election. The number of lectures is not to be less than twelve in each year, nor more than three in the same week. The course is required to be annually delivered between the first of November and the end of July following, at such public places in the United Kingdom as the Trustees shall approve. The public are admitted without fee. The Lecturer is required at the termination of each course to deposit a copy, or full extract of such course of lectures, with the Principal Librarian of the British Museum, to whom application may be made for further particulars.

Of the foregoing Fellowships, Scholarships, Bursaries, and Prizes, the following are open during 1900-1901.<sup>2</sup>

FELLOWSHIPS.<sup>2</sup>

1. *The Falconer Fellowship*, No. I., page 269. Names to be entered on or before 1st July 1901.
- 2-6. *George Heriot Fellowships for Research*, No. IV., page 186.

SCHOLARSHIPS.<sup>2</sup>

1. *Royal Commission for Exhibition of 1851 Physical Science Scholarship*, No. XIV., page 274.
2. *The Vans Dunlop Scholarship in Mathematics*, No. III., page 270.
3. *Vans Dunlop Scholarship in Natural Philosophy*, No. IV., page 271.
4. *The Vans Dunlop Scholarship in Natural History, Botany, and Geology*, No. VII., page 272. The next competition will take place in March 1901: Geology, 25th March, 1; Botany, 26th March, 9;

<sup>1</sup> For particulars, see under Faculty of Arts.

<sup>2</sup> For further information, and for information regarding other Fellowships, Scholarships, Bursaries, and Prizes, see pp. 269-276, where full information regarding the conditions and values, &c., are given. The values of the Fellowships, Scholarships, Bursaries, and Prizes are subject to variation consequent on the rise and fall of the rate of interest, &c.



Zoology, 1. Names of Candidates to be given in *on or before* 15th March.

5. *The Vans Dunlop Scholarship in Agriculture*, No. V., page 271. The next Competition will take place in March or April 1901, at dates to be afterwards announced. Names of Candidates to be entered *on or before* 15th March.

6, 7. *Two Hope Prize Scholarships*, Nos. X. and XI., page 273.

8. *Steven Scholarship in Agriculture*, No. IX., page 272. The competition takes place in March. Candidates to enter names *on or before* 15th March.

9. *Neil Arnott Scholarship for Experimental Physics*, No. XII., page 273.

10, 11. *Two Arthur Trevelyan Scholarships in Engineering*, Nos. XV. and XVI., page 274. Names of Candidates to be entered *on or before* 15th March.

*Competitors for Fellowships and Scholarships must have studied the subjects of Examination at the University of Edinburgh. No Fellowship or Scholarship can be held along with any other University Fellowship or Scholarship.*

## FUNDS FOR RESEARCH.

1. *The William Dickson Travelling Fund*, No. XX., page 276. Applications to be lodged with the Secretary of Senatus *on or before* 15th March.

2. *The Earl of Moray Endowment for the Promotion of Original Research*, No. XXI., page 276. Applications for participation in the Fund must, in the first place, be submitted to the Dean of the appropriate Faculty.

## BURSARIES.<sup>1</sup>

1, 2. *Two Sibbald Bursaries.*<sup>2</sup>

3. *Heriot Bursaries.*<sup>2</sup>

4. *The Donald Fraser Bursary.*<sup>2</sup>

5. *Renton Bursary.*<sup>2</sup>

6-9. *Four Buchanan Bursaries* may be held in the Faculty of Science. See under open Bursaries in the Faculty of Arts.

*Town Council Bursaries.*—Apply to the City Clerk, Council Chambers, Edinburgh.

*University Bursaries cannot be held along with any other Bursary.*

<sup>1</sup> See footnote 2, page 276.

<sup>2</sup> For particulars, see under Faculty of Arts.

PRIZES.<sup>1</sup>1, 2. *Two Newton Bursaries or Prizes.*<sup>2</sup>3. *The Kelland Memorial Prize.*<sup>2</sup>4. *The Lord Rector's Prize.*<sup>2</sup>5, 6, 7. *The Gray Prize Essays.*<sup>2</sup>

The attention of all Bursars in the Faculty of Science is particularly called to the following regulation :—

“Bursars in the Faculty of Science (to whose Bursaries special conditions are not attached) must annually attend at least two of the Classes necessary for the Degree of Bachelor of Science, and must present themselves at the Examinations necessary for that Degree.

“Each Bursar must present a Certificate, signed by the Dean, attesting his regular attendance on the proper Classes in the Faculty of Science, on each occasion on which he applies to the Factor for a payment.”

Certificates, in terms of this regulation, will be given to Bursars, by the *Dean of the Faculty of Science*, after 15th November; and at the end of the Session. In applying to the Dean for the Certificate in November, Bursars must present their Class Cards for the Session; and at the end of the Session they must present Certificates from the Professors that they have attended with regularity and made progress in their studies. Payments are made by the University Factor, Mr Henry Cook, W.S., 61 North Castle Street, Edinburgh, on and after 15th November for the Martinmas payments, and on and after 18th May for the Whitsunday payments,—between 10 and 3 o'clock.

N.B.—*Bursars, Scholars, and Fellows who desire to resign should at once announce this to the Factor. They must apply to the Factor for the instalments due to them within three months after they have become payable, otherwise they will be regarded as having resigned.*

<sup>1</sup> See footnote 2, page 276.

<sup>2</sup> See under Faculty of Arts.

JAMES GEIKIE, D.C.L., LL.D., F.R.S., &c.,  
*Dean of the Faculty of Science.*

# Programme of Classes.

## FACULTY OF DIVINITY.

1900-1901.

Dean—Professor PATRICK, D.D.

*The Classes will be opened as follows, and will close on 15th March 1901.*

Classes.	Days of Opening, and Hours of Lectures.	Professors.	Class Fees. <sup>1</sup>
Divinity .....	23 Oct., 12 o'cl.	Prof. Flint.....	£3 3
Ecclesiastical History.	23 Oct., 11 „	Prof. Taylor.....	3 3
Biblical Criticism.....	23 Oct., 10 „	Prof. Patrick ...	3 3
Hebrew—Junior Cl....	23 Oct., 1 „	}	{ 3 3
Senior Cl....	23 Oct., 2 „		{ 3 3
Arabic ( <i>Mond., Wed., &amp; Frid.</i> ).....	} 24 Oct., 3 „	} Prof. Kennedy.	{ 3 3
Syriac ( <i>Tues. &amp; Thurs.</i> ).....			
	} 23 Oct., 3 „	}	{ 2 2

THE SUMMER PREPARATORY CLASSES IN ELEMENTARY HEBREW AND ELEMENTARY ARABIC, conducted by the Class-Assistant under the superintendence of the Professor, open on 1st May, at 10 A.M. and 11 A.M. Fee for Hebrew, £1, 11s. 6d.; and for Arabic, £2, 2s.

GIFFORD LECTURESHIP, for “promoting, advancing, teaching, and diffusing the study of Natural Theology in the widest sense of that term.”  
*Lecturer*—Professor WILLIAM JAMES of Harvard University, U.S.A.

The arrangements for the Course will be announced before the beginning of next Session.

### GUNNING VICTORIA JUBILEE LECTURES.

This Course of Three Lectures will be delivered in the Winter Session of 1900-1901.

*Lecturer*—Rev. JOHN M. ROBERTSON, M.A., St Ninians. *Subject*—“The Augustan History and its references to Christianity.”

MATRICULATION. See page 27.

### CLASS-ASSISTANTS.

*Hebrew and Semitic Languages*—ANDREW TWEEDIE, B.D.

*Divinity*—ALEXANDER HORN, B.D.

### EXAMINERS FOR B.D.

Professor W. B. STEVENSON, B.D.; Rev. A. STUART MARTIN, B.D.

<sup>1</sup> For Second and Third Attendances in Divinity, no reduction. Subsequent attendances free. For Second Attendances on Hebrew, Ecclesiastical History, and Biblical Criticism, no reduction. Subsequent attendances free. Fee in case of Licentiates of Foreign and Colonial Churches, £2, 2s.

## CURRICULUM FOR THE MINISTRY IN THE CHURCH OF SCOTLAND.

The Laws of the Church of Scotland require that every Theological Student, who desires to qualify himself for the Ministry, should attend the Class of *Divinity*, either during *three full and regular Sessions*, or during *two regular and three partial Sessions*;—and also that he should regularly attend during two Sessions each of the Classes of *Hebrew*, *Ecclesiastical History*, and *Biblical Criticism*.

### *Entrance Examinations.*

(1) Students, before enrolment *for the first year* of their curriculum with a view to the Ministry in the Church of Scotland, must produce to the Professor of Divinity Certificates of their having satisfactorily undergone an Examination in the subjects embraced in the *Curriculum of Arts*, and also in the Elements of Hebrew Grammar. By Act IX. of General Assembly 1872, it is ordained that this Examination shall be conducted at each of the four Scottish Universities, shortly before the commencement of every Session, by four Examining Committees, consisting of members elected by the adjoining Synods, with Conveners nominated by the General Assembly. *The Convener of the Committee for the University of Edinburgh is the Rev. John Alison, D.D., Minister of Newington.* The time of the Committee's meeting and the prescribed subjects of Examination will be timeously advertised in the *Mission Record* of the Church of Scotland.

(2) Students, before enrolment at the beginning of *every Session after the first* of their Course in Divinity, must produce certificates of their having satisfactorily undergone the Examinations prescribed by their respective Presbyteries. For subjects of Examination prescribed by the *Presbytery of Edinburgh*, see *Appendix to Calendar*.

### *Discourses.*

Every Student of Divinity is required during his curriculum to deliver with approbation *six* discourses upon subjects prescribed by the Professor of Divinity, viz., a Homily, a Latin

Thesis, a Lecture, a popular Sermon, a Hebrew Exercise on a passage of the Old Testament, and an Exercise with additions on a passage of the Greek New Testament.

The following Regulations have been made by the Faculty of Theology in regard to the delivery of these Discourses. (1) Students of the *first* year shall give in their *Homily* to the Professor of Divinity not later than 1st February ; (2) Students of the *second* year shall give in their *Latin* Thesis not later than the 16th December, and shall be prepared to deliver their *Lecture* not later than the 10th January ; (3) Students of the *third* year shall give in their *Hebrew Exercise* and their *Greek Exercise* with additions, not later than the 16th December, and shall be prepared to deliver their *Popular Sermon* not later than the 2nd of February.

#### *Attendance at Foreign Universities.*

The General Assembly of 1868, with the consent of a majority of Presbyteries, enacted and ordained:—(1) That all Candidates for the ministry shall attend during at least *two sessions* the Theological Classes at one or more of the Universities of Scotland, and shall deliver, with approbation, the Six Trial Discourses required by the Acts of the General Assembly ; and (2) That any Student who wishes to prosecute the remainder of his Theological Curriculum at any Protestant University or Universities not within the bounds of this Church, shall, before repairing thither, undergo satisfactory examination by the Presbytery with which he is connected, and shall, moreover, satisfy the same Presbytery in regard both to the Classes which he proposes to attend, and to the proficiency he has acquired in the language used in the Foreign University in which he intends to study.

## Courses in the Faculty of Divinity.

### I. DIVINITY.

#### PROFESSOR FLINT.

The course of study in this class extends over three Sessions. The Subjects of the Lectures during 1900-1901 will be :—1. The Revelation of God and the Position of Christ in History. 2.

The Christian Doctrine of the Kingdom of God. 3. Christology. 4. Soteriology. 5. Ecclesiology. 6. Eschatology.

Lectures will be delivered on Mondays, Tuesdays, Wednesdays, and Thursdays at 12 o'clock. Fridays will be devoted partly to the hearing of Discourses and Exercises, and partly to Lectures.

The work of the class includes two written examinations and an essay.

## II. HEBREW AND SEMITIC LANGUAGES.

PROFESSOR KENNEDY.

A.—HEBREW.

*Junior Class—1 to 2.*

This class is conducted in two divisions, an upper and a lower. The latter is intended for students having no previous acquaintance with Hebrew, the former for those who have advanced as far as § 30 of the text-book. The Lower Junior will meet for the first time on the day appointed for the opening of the Arts classes, and thereafter on five days a week with the Professor or the Assistant. Text-books: Davidson's *Introductory Hebrew Grammar*, and the book of Genesis in Hebrew.

The Upper Junior will meet for the first time on the day appointed for the opening of the Divinity Classes, and thereafter on three days a week with the Professor or the Class-Assistant. On these days the class will continue the study of the Grammar, including parts of the Syntax (Davidson's *Hebrew Syntax*), and read easy prose passages from the Old Testament. On two days a week the two divisions will meet together for the revision of the Grammar, and for practice in translation into Hebrew.

The students' progress is regularly tested by oral and written examinations throughout the Session.

*For Preparatory Class of Elementary Hebrew (see page 279).*

*Senior Class—2 to 3.*

Study of Davidson's *Hebrew Syntax*. Hebrew Prose Composition. Reading of unpointed texts (Baer's *Pentateuch*).

Reading and Exposition of portions of the Historical, Poetical,



and Prophetical Books of the Old Testament. For Session 1900-1901, 1 Samuel i.-xviii.; Hosea, Jonah; Psalms, Book ii.

A Course of Lectures, extending over two Sessions, on Old Testament Introduction (including History of the Canon, Text and Versions).

Oral and Written Examinations.

The Senior Hebrew Class will be the Graduating Class in Hebrew for the Ordinary Degree of Master of Arts; and any student who desires to attend this Class with a view to Graduation in Arts must previously pass an examination, in accordance with Sect. IV. subs. 3 of the Regulations.

The examination will include plain passages for translation from and into Hebrew, and grammatical questions.

Those who propose, in a subsequent Session, to take up Hebrew as one of their Graduation Subjects, will have an opportunity of attending the Junior Class in that language during the Session 1900-1901.

#### B.—ARABIC—3 to 4.

The course of instruction in Arabic extends over one Summer and two Winter Sessions.

(1) A Preparatory Class for elementary Arabic is conducted during the Summer Session by the Class-Assistant, under the superintendence of the Professor. *Intending students of Arabic are strongly advised to take this Class.* Text-books: Socin's *Arabic Grammar* (New Edition, 1895) and Jacob's *Bible Chrestomathy*. The fee is £2, 2s.

(2) A Junior Class in continuation of the above, meeting three days a week in *alternate* sessions (next in 1901-1902). Text-books: Socin's *Grammar* and Bruennow's *Chrestomathy of Arabic Prose Pieces* (1895). Elementary Arabic Composition. The fee is £3, 3s.

(3) A Senior Class, meeting ordinarily three days a week in *alternate* sessions (next in 1900-1901), for more advanced reading in prose and poetry, and for the study of Arabic syntax and composition. Text-books (besides those already mentioned): The Koran (Fluegel's edition), Nallino's *Chrestomathia Coranica*

Noeldeke and Mueller's *Delectus Veterum Carminum Arabicorum* (1890), Wright's *Arabic Grammar* (3rd edit., 1896). The fee is £3, 3s.

This course has been sanctioned by the University Court as a half-course qualifying for graduation in Arts, and the class will be held in two successive sessions, if required, to meet the needs of intending graduates. For text-books see under *Graduation in Arts*.

### C.—SYRIAC—3 to 4.

The course of instruction in Syriac extends over two Winter Sessions.

(1) A Junior Class, meeting on two days a week in *alternate* sessions (next in 1900-1901), for the study of the grammar and the reading of portions of the Syriac gospels. Text-books: Nestle's *Syriac Grammar* (1889), Syriac New Testament (Peshittâ).

(2) A Senior Class, meeting on two days a week in *alternate* sessions (next in 1901-1902), for the study of syntax and composition and for more advanced reading in prose and poetry, such as the extracts from Bar-Hebræus and Ephrem Syrus in Roediger's *Chrestomathy* (3rd edit.) and the *Vitæ Prophetarum* in Nestle's *Grammar*.

The fee for each of these classes is £2, 2s.

## III. ECCLESIASTICAL HISTORY.

PROFESSOR TAYLOR.

1. *Lectures*—Mondays and Tuesdays.—On The Beginnings of Christianity.

2. *Lectures*—Wednesdays and Thursdays.—On the History of the Scottish Church from 1572.

3. *Text-book*—Fridays.—Kurtz's "History of the Christian Church." First Division ; First Section.

The work of the class includes three written examinations.

For the Regulations of the Vans Dunlop Scholarship in "History"—value about £100 annually for three years,—see

under "SCHOLARSHIPS IN ARTS" and "SCHOLARSHIPS IN DIVINITY."

#### IV. BIBLICAL CRITICISM AND BIBLICAL ANTIQUITIES.

PROFESSOR PATRICK.

It is intended to occupy next Session, with (1) Lectures on Textual Criticism. (2) Lectures on Introduction to the Pauline Epistles and the Fourth Gospel. (3) Exegetical and Critical Lectures on the *New Testament*. (4) Reading of the N. T. in Greek.

*Text-book*—Fridays.—Westcott's "History of the Canon of the New Testament."

There will be written and oral examinations, in which all regular students are required to take part ; and subjects of occasional voluntary essays may be suggested.

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#### LECTURESHIPS.

##### I.—GIFFORD LECTURES ON NATURAL THEOLOGY.

*Lecturer*—Professor WILLIAM JAMES of Harvard University.

These Lectures were endowed by the late Adam Gifford, Senator of the College of Justice, "for promoting, advancing, teaching, and diffusing the study of Natural Theology in the widest sense of that term."

According to the Trust Deed, "the lecturers appointed shall be subjected to no test of any kind, and shall not be required to take any oath, or to emit or subscribe any declaration of belief, or to make any promise of any kind ; they may be of any denomination whatever, or of no denomination at all ; they may be of any religion or way of thinking, or, as is sometimes said, they may be of no religion ; or they may be so-called sceptics or agnostics or free-thinkers ;—provided only that the 'patrons' will use diligence to secure that they be able reverent men, true thinkers, sincere lovers of and earnest inquirers after truth. I wish the lecturers to treat their subjects as a strictly natural science, the greatest of all possible sciences, indeed, in

one sense, the only science,—that of Infinite Being, without reference to or reliance upon any supposed special exceptional or so-called miraculous revelation. The lecturers shall be under no restraint whatever in their treatment of their theme. The lectures shall be public and popular, that is, open not only to students of the Universities, but to the whole community, without matriculation.”

## II.—THE GUNNING VICTORIA JUBILEE LECTURESHIP.

*Lecturer*—Rev. JOHN M. ROBERTSON, M.A., St Ninians.

With a view to promote the study of Natural Science among candidates for the ministry, and to bring out among ministers the fruits of study in Science, Philosophy, Language, Antiquity, and Sociology, Dr R. H. Gunning, of Edinburgh and Rio de Janeiro, has founded a Lectureship in the Faculty of Divinity of the University of Edinburgh, to be known as “The Gunning Victoria Jubilee Lectureship.”

The Gunning Lectureship is a triennial appointment of the value of £100, and the appointment shall be made by the Faculty of Divinity. The lecturer may be any Scottish Presbyterian clergyman at home, or in the Mission field, eminent in Science, Philosophy, Language, Antiquity, or Sociology, and the lectures may be delivered in the University of Edinburgh, or such other place as the Faculty may appoint.

See Revised Scheme, p. 519 of CALENDAR 1889-90.

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## Graduation in Divinity.

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### REGULATIONS FOR GRADUATION IN DIVINITY.

*(Candidates who began the study of Divinity with a view to Graduation before 1st October 1896 are referred to the CALENDAR for 1896-97 and to previous CALENDARS.)*

I. No one is admitted to examination as a Candidate for the Degree of Bachelor of Divinity (B.D.) unless he be (1) a Graduate in Arts of the University, and have taken a complete Theological Course in a Scottish University or Universities, or in an institution or institutions

specially recognised for the purpose by the University Court, or partly in a Scottish University or Universities and partly in such institution or institutions; or (2) a Graduate in Arts of any Scottish University or other University specially recognised as aforesaid,<sup>1</sup> and has completed his Theological Course, of which not less than two years' attendance has been given in this University.<sup>2</sup>

II. The Examiners are the Professors of the subjects included in the examinations, and two additional Examiners appointed by the University Court. The mode of conducting the examination is fixed from time to time by the Senatus Academicus.

By a Supplementary Ordinance it is provided that, notwithstanding the provisions of Section I. hereof, the Senatus Academicus may, under this Section, admit candidates to examination in not more than three of the subjects, after the completion of the second session of attendance on their Theological Course.

III. The subjects of examination are arranged in two departments:—The First Department embracing—(1) Hebrew, and (2) Apologetic Theology, or the Evidences of Natural and Revealed Religion; and the Second Department embracing—(1) Ecclesiastical History, (2) Systematic Theology, and (3) Biblical Criticism and Biblical Antiquities.

IV. Every Student who at the time when these Regulations came into operation had completed a part of his Theological Course with a view to Graduation as B.D., under Regulations hitherto in force, and shall thereafter complete his course of study in conformity with such Regulations, may become a Candidate for the Degree of B.D. without complying with the provisions of these Regulations.

V. The Degree of B.D. is in no case conferred on persons who have not complied with the conditions hereinbefore set forth, and is not conferred *honoris causâ tantum*.

Candidates are required to communicate their names, together with evidence of their being qualified in terms of the above Regulations, to the Dean of the Faculty of Divinity, at least one week before the first day of the Examination.

The subjects of examination for 1900-1901 are as follows:—

#### DEPARTMENT I.

##### I. *Hebrew*—

##### A.—*For October 1900.*

- (1.) Questions in Grammar.
- (2.) Translation into Hebrew Prose.
- (3.) Nahum, Habakkuk, Zephaniah.
- (4.) Psalms, Book i.
- (5.) Exodus i.-xx. (the unpointed text).

<sup>1</sup> Degree of B.A. of Manitoba University recognised as qualifying for Graduation in Divinity.

<sup>2</sup> Institution—the Courses in which qualify for Graduation in Divinity—Westminster College, Cambridge.

*B.—For April and October 1901.*

(1 and 2.) As above.

(3.) O. T. Introduction—Historical Books, Minor Prophets, the Greek and Latin Versions.

(4.) Hosea, Jonah.

(5.) Psalms, Book ii.

(6.) I Samuel i.-xviii. (the unpointed text).

Candidates will be expected to show some knowledge of the history from the call of Isaiah to beginning of the Exile, and of the textual and historical criticism of the books prescribed.

*II. Apologetic Theology—**For October 1900 and April 1901.*

(1.) The Causes of Modern Doubt and the Grounds of Fundamental Christian Beliefs.

(2.) The varieties of Naturalistic and Rationalistic Theology which have had representatives in Britain.

(3.) The Christian Doctrine of Immortality, the objections which have been taken to it, and the replies which have been given to them.

## DEPARTMENT II.

*For October 1900 and April 1901.**I. Ecclesiastical History—*

(1.) The Main Facts in the Development of the Constitution, Doctrine, and Worship of the Church from 100 to 451 A.D. (2.) The History of the Church in Scotland during the 15th Century.

*II. Systematic Theology—*

(1.) The History of Christian Dogmatics since the Reformation, and especially during the past century.

(2.) Christology.

(3.) Doctrine of the Church and Sacraments.

*III. Biblical Criticism and Biblical Antiquities—*

(1.) Textual Criticism of the New Testament (including knowledge of the Manuscripts, Versions, and Critical Editions).

(2.) History of the Canon of the New Testament to the middle of the 3rd century.

(3.) Introduction to (1) the Pauline Epistles, and (2) the Fourth Gospel.

(4.) Greek New Testament. (1) The Epistles to the Corinthians; (2) Romans (with Introduction and Exegesis).

## FEES.

Fee for Degree of B.D.,	.	.	.	£5	5
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*When the Examination is taken at two periods—*

The Fee for the First is	.	.	.	3	3
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For the Second,	.	.	.	2	2
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## *Time-Table and Dates of Examinations, 1900-1901.* 289

Any Candidate who fails to pass pays a fee of 10s. 6d. for re-examination in each subject.

All Candidates for Examination or for Graduation, must be Matriculated Students of the year in which they appear for Examination or for Graduation.

### TIME-TABLE AND DATES OF ENTERING FOR EXAMINATIONS, 1900-1901.<sup>1</sup>

*Candidates are required to enter for each periodical Examination at which they desire to appear, and to state the subject or subjects in which they desire to be examined.*

1900.

Oct.	9.	Tu.	Names to be entered and fees paid <i>on or before</i> this date. <sup>1</sup>
„	16.	Tu.	Hebrew, 10 a.m. ; Apologetics, 2 p.m.
„	17.	Wed.	Ecclesiastical History, 10 a.m. ; Divinity, 2 p.m.
„	18.	Th.	Biblical Criticism, 10 a.m.

1901.

Mar.	19.	Tu.	Names to be entered and fees paid <i>on or before</i> this date. <sup>1</sup>
„	26.	Tu.	Hebrew, 10 a.m. ; Apologetics, 2 p.m.
„	27.	Wed.	Ecclesiastical History, 10 a.m. ; Divinity, 2 p.m.
„	28.	Th.	Biblical Criticism, 10 a.m.

Every Candidate for Examination or for Graduation must matriculate for the Academic year in which he appears for examination or for Graduation, and pay the Fee of £1 for Registration as a Member of the General Council (if not already a Member) *at least one clear day before the date of Graduation.*

The fees for Matriculation, for Examinations for Degrees, and for Registration of Graduates as Members of the General Council are payable at the Matriculation Office, University. When Candidates cannot attend personally to pay the fees, they should transmit them to T. GILBERT, University, Edinburgh, by *Post Office* or *Postal Orders*, or by *Bank Drafts*, crossed "*Union Bank of Scotland (Hunter Square Branch), Edinburgh,*" but not by cheques on private accounts.

### THE DEGREE OF BACHELOR OF DIVINITY.

14th April 1900.

Richard Bell, M.A. | Robert Alexander King, B.A.  
Bruce M'Ewen, M.A.

<sup>1</sup> When names are not entered, and fees paid, on or before the stated dates, an additional or late-entry fee of ten shillings must be paid before the Candidate can be admitted to examination. A Candidate is not held to be entered for the Examination until his name is entered, the fee paid, and all the necessary certificates, &c., lodged.

DEGREE OF DOCTOR OF DIVINITY (D.D.).<sup>1</sup>

The Degree of Doctor of Divinity is conferred *honoris causâ tantum*,—and is granted in absence in special cases only. The Register of Doctors of Divinity begins in 1709, with the names of Edmund Calamy, Daniel Williams, and Joshua Oldfield. The names of Evans, Harris, and Isaac Watts follow in 1728. The Register now includes above 300 names.

The following is a list of those who have received the Degree of Doctor of Divinity in the years 1889-1900 inclusively<sup>2</sup> :—

1889.

\*Griffith John.

\*Professor Abraham Kuenen.  
Archibald Henry Sayce, M.A.  
Norman M. L. Walker.

1890.

David Douglas Bannerman.  
R. H. Lundie, M.A.  
Canon J. H. Overton.

1891.

Richard Glover.  
Robert Hutton, M.A.  
\*John Gibson Paton.  
D. W. Simon, M.A., Ph.D.

1892.

William Balfour.  
Cornelius Giffen.  
Newham Hall.

1893.

Thomas Nicol, B.D.  
Thomas B. W. Niven.  
George Adam Smith.  
James Wells, M.A.

1894.

William Hastie, M.A., B.D.  
J. A. M'Clymont, M.A., B.D.

J. C. M'Phail.

William Muirhead.

1895.

Robert G. Balfour.  
\*Alexander Marshall, M.A.  
Charles Moinet, M.A.  
John Patrick, M.A., B.D.  
J. Guinness Rogers, B.A.  
\*David Sidey.

1896.

Charles Gore, M.A.  
William Miller, C.I.E., LL.D.  
David Clement Scott, M.A., B.D.  
Alexander Williamson.

1897.

H. M. Gwatkin, M.A.  
J. B. Hastings, M.A.  
W. P. Paterson, M.A., B.D.  
R. J. Sandeman.

1898.

George Macalister, M.A.  
M. Henri Bois.  
Alexander Martin, M.A.  
Peter Thomson, M.A., B.D.

1899.

Malcolm MacColl, M.A.  
David Somerville, M.A.

<sup>1</sup> Those to whom the Degree has been offered, if unable to be present at the Graduation Ceremonial immediately ensuing, may present themselves at any subsequent ceremonial, on giving at least a week's notice.

<sup>2</sup> The names of those who received the Degree, prior to 1859, will be found in the "Catalogue of the Graduates in the Faculties of Arts, Divinity, and Law of the University, since its foundation," published in 1858, and the names of those who received the Degree from 1859 to 1888, both years included, will be found in the List of Graduates, published in 1889.

\* Conferred *in absentia*.

29th July 1899.

Rev. J. Edgar Hill, M.A., Minister of St Andrew's Church, Montreal.

14th April 1900.

Rev. Charles Martin Grant, M.A., B.D., Parish of St Mark, Dundee.

\*Rev. William Bannerman, Minister-Emeritus, Presbyterian Church, Otago.

## Bursaries, Scholarships, Fellowships, &c.

### I.—BURSARIES.

See note under Bursaries, page 157.

#### A.—PRESENTATION BURSARIES.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	Years.	Annual Allowance to each Bursar.	Patrons.
I.	1703	Agnes Nairne.	£3 0 0	1	1	£20 .. 6 8	Senatus Academicus.
II.	1715	Sir James M'Lurg of Vogrie, sometime Dean of Guild of Edinburgh; and	20 6 8	1	4	£20 6 8	Capt. R. G. G. Gil-mour of Craig-millar, 1st and 3rd Presentations.
	1764	Rev. John Penman, Minister of Bothkennar.					The Dean of Guild of Edinburgh, 2nd Presentation.
							Heirs of William Brown, surgeon, 4th Presentation.
III.	1766	Rev. Robert Alexander, Minister of Girvan.	About 19 0 0	1		About 19 0 0	Kirk-Session of Girvan and Presbytery of Ayr.
IV.	1838	Robert Blair, D.D., Barton St Andrews, Norfolk	16 0 0	1		16 0 0	Governors of George Heriot's Trust.
V.	1838	Do. Do	About 23 0 0	1	4	About 23 0 0	The Principal, and Profs. of Hebrew, Divinity, Church History.

I. In abeyance at present.

II. The *M'Lurg and Penman Bursary* is tenable for four years at the Theological Classes. No person shall be presented to the Bursary who is not a Master of Arts of a Scottish University.

III. This Bursary consists of the interest of £420, lent on heritable security, and of £75, 17s. of accumulated interest. It must be held by a Student from the parish

\* Conferred in *absentia*.

of Girvan, presented by the Session; whom failing, by one within the Presbytery of Ayr, to be appointed by the Presbytery.

IV. The *Blair Bursary* can be held only by a young man who has been educated in George Heriot's Hospital School, and has become a Student of Divinity in the University of Edinburgh.

V. To be applied for the benefit of a Student of Divinity, whether a graduate or not. *Bursar*—1898, *Alexander Barrie Robb*.

### B.—COMPETITION BURSARIES.<sup>1</sup>

*See note under Bursaries, page 157.*

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1646	Buchanan of that Ilk.	£22 16 8	1	3	£22 16 8	Town Council.
II.	1666	William Struthers &	23 7 9	1	3	23 7 9	Do.
III.	1685	Archbishop Leighton.					
	1687	Andrew Ramsay and Sir Andw. Ramsay of Abbotshall.	16 13 4	1	3	16 13 4	Do.
IV.	1695	King William III.	50 0 0	2	2	25 0 0	Senatus Academicus.
V.	1867	Miss Mary Ettles of Inverness.	98 10 0	3	3	About 32 16 8	Senatus.
VI.	1873	Grierson of Ogcastle's Trustees.	80 0 0	3	1	26 13 4	Senatus.
VII.	1878	Mrs Isabella Webster.	123 0 0	(2	3	43 0 0	) Senatus.
VIII.	1878	Dr Andrew Thomson	100 0 0	(1	3	30 15 6	
IX.	1879	Mrs Barbara Mylne.	30 0 0	4	4	25 0 0	Trus. of Dr Thomson.
				1	3	30 0 0	Moderator, Procurator, and Principal Clerk of General Assembly.
X.	1838	J. Stewart Hepburn of Colquhailzie, Esq.	13 2 6	1	3	13 2 6	Committee of the Presbytery of Edin.
XI.	1858	Do. Do.	13 2 6	1	3	13 2 6	Do.
XII.	1864	Do. Do.	13 2 6	1	3	13 2 6	Do.
XIII.	1882	William Renton.	20 0 0	1	3	About 20 0 0	Profs. of Theology.
XIV.	1884	Robert Hunter.	31 10 0	2	2	15 15 0	Principal and Profs. Presbytery of Edinburgh.
XV.	1887	James Simson, Edinburgh.	175 0 0	7	3	25 0 0	
			About			About	
XVI.	1892	Thomas Lockerby, London.	32 0 0	1	3	32 1 0	Senatus.
XVII.	1856	John Sharp, Esq., Perth.	18 0 0	1	4	18 0 0	The Presbytery of Perth.

I. The Buchanan Bursary is open for competition to all Masters of Arts of any of the Universities of Scotland, or to Students who have passed the necessary Examinations for the Degree of M.A., but have deferred their Graduation with a view to Honours, and who are entering on their first or second Session in the Faculty of Divinity in the University of Edinburgh. No person is admissible to competition

<sup>1</sup> The values of these Bursaries are subject to deduction of the fees paid to the Examiners.

who has for more than one Session been a Student in the Faculty of Divinity in any of the Scottish Universities. The Bursar holds the Bursary for three years, subject to this condition, that he shall, during that period, give regular attendance, as a Student of Theology, in the University. If it appears to the *Senatus Academicus* desirable, for the purpose of distributing the benefits of competitive Bursaries in Theology among Students of different years, it is lawful, for that purpose only, to appoint a Student for a shorter period. No person can hold the Bursary along with any other Bursary, Fellowship, or Scholarship in any Scottish University. *Bursar—1896, William Marshall Low, M.A.*

II. The Struthers and Leighton Bursary is open by competition to all Students who are Masters of Arts, or who have passed all the examinations necessary for admitting them to the degree of Master of Arts, and who are entering on their first session of residence in the Faculty of Divinity in the said University. *Bursar—1897, James Black, M.A.*

III. By Ordinance, No. 81, of the Univ. Com., and subsequent Order in Council, the regulations for this Bursary are the same as those for the Buchanan Bursary. *Bursar—1898, G. H. Donald.*

IV. By Ordinance, No. 76, of the Universities' Commissioners, and subsequent Order in Council, each King William Bursary is open to competition to all Masters of Arts of any of the Universities of Scotland, or Students who have passed the necessary examinations for the Degree of M.A., and who have attended for one Session, and no more, in the Faculty of Divinity in the University of Edinburgh: Provided that no person shall be a competitor who has attended for one or more Sessions in the Faculty of Divinity in any other of the Scottish Universities. The examinations in the competition shall be conducted by the Professors in the Faculty of Divinity in the University. Each Bursar shall hold his Bursary for two years, subject to the condition that he shall, during that period, give regular attendance as a Student of Theology in the University. No person shall hold either of the Bursaries along with any other Bursary, Fellowship, or Scholarship of any Scottish University. When the two Bursaries fall vacant at one time, one Bursar shall be appointed for two years, and the other for one year. *Bursar—1899, David Nelson, M.A.*

V. Founded in memory of her brother, J. Ettles, Esq., of Havannah. Open to those who have passed all the examinations for M.A., and are in the first year of their theological course. Cannot be held with any other Bursaries or Scholarships. *See Deed of Foundation in CALENDAR for 1867-68. Bursars—1897, Richard Bell, M.A.; 1898, C. S. Mackenzie, M.A.; 1899, Oswald B. Milligan, M.A.*

VI. As in the case of the Faculty of Arts (see No. XLVII.), a student from the parishes of Crawford or Leadhills, is, if found duly qualified in respect of attainments, appointed to a Bursary in his first year, and holds it (unless he has failed to show himself a diligent student) to the end of his Theological curriculum. Failing any student from those favoured parishes, the Bursary or Bursaries will be thrown open to competition, but the winner only holds his Bursary for one year in each case. In the second and third years a student from Crawford or Leadhills has again a preference, but holds the Bursary for one year only. Preferential candidates to lodge their applications with the *Clerk of Senatus* on or before 1st

November. See p. 372 of CALENDAR, 1877-78. *Bursars*, 1899—Second year, *John Weir*; Third year, *Bruce McEwen, M.A.*

VII. Founded by Mrs Isabella Webster, 38 Heriot Row, Edinburgh, in memory of her husband, George Webster, Esq. There are three Bursaries,—two of about £43 each, and one of £30, 15s. 6d., open to Students of Divinity in connection with the Church of Scotland in their first year, who have successfully passed all their Examinations for the degree of M.A. in any Scottish University, whether they have actually graduated or not. Each is tenable for three years. See Deed of Foundation in CALENDAR for 1878-79, p. 377. *Bursar*—1897, *John Dickie, M.A.*; 1898, *William A. Curtis, M.A.*; 1899, *Wm. A. Mowat, M.A.*

VIII. *Preferential Candidates* for the Thomson Bursaries must apply to Messrs Traquair, Dickson & Maclaren, 11 Hill Street. Candidates of the name of Thomson or Traquair, or natives of the town or county of Dumfries, or of the city of Edinburgh, preferred. The subjects of Examination are Latin, Mathematics, Moral Philosophy, Elementary Hebrew, Apologetics, and Greek Testament. See p. 374 of CALENDAR for 1880-81. *Bursars*—1896, *Alex. R. Yeoman, M.A.*; 1898, *James Kirk, M.A.*

IX. *Mylne Bursary*.—Founded by Mrs Barbara Macaulay or Mylne, in memory of her husband, the Rev. Andrew Mylne, minister of the parish of Dollar. The Bursary (being the free proceeds of £750) which is for behoof of Students for the ministry of the Church of Scotland, of Scottish birth, tenable during the curriculum in Divinity, is awarded at the end of the session, after examination (of first year's students) on the subjects taught in the Theological Classes during the session. No one may become a Candidate who has not given his whole time to study during the session preceding the date of Examination, nor may the holder engage in paid work during any session in which he holds the Bursary. It cannot be held along with any other Bursary, Scholarship, or Endowment. See Deed of Foundation at page 377 of CALENDAR for 1880-81—1899, *D. A. Morrison*.

X., XI., and XII. The sums attached to these Bursaries are payable to Divinity Students of the Church of Scotland of the first or second year towards the expense of their education at the University of Edinburgh. Each is tenable for three years. For one bursary Gaelic-speaking students have a preference.

XIII. Founded by the late William Renton, of 20 Royal Terrace, Edinburgh. The Faculty of Theology are the Patrons and Trustees. The Bursary may be held for three years, if the Bursar continues so long to prosecute his studies in Theology at the University of Edinburgh, with a view to the ministry in the Church of Scotland, and if not, then for the whole period he continues at the same. The student presented must have attained the age of sixteen, and not exceed the age of twenty-one years, and must be appointed after an examination in the month of November on such subjects as the Professors of the Faculty of Theology consider proper. *Bursar*—1897, *L. McGlashan, M.A.*

XIV. Founded by the late Robert Hunter, Dalhousie, Chesters; the Principal and Professors being Patrons. These Bursaries are for the benefit of Students of the Church of Scotland, and are awarded at close of first Session in Divinity, and are tenable for two years. Bursars must attend two Sessions in Chemistry and Geology, taking at least one of these Classes each Session. Students of the



name of Hunter and Hamilton from the parishes of Temple or Cockpen have a preference, but preferential Candidates must attain to a fixed percentage. Bursars must produce certificates of diligence in the Classes of Chemistry and Geology. See excerpt from Deed of Foundation, page 437 of CALENDAR for 1885-86. Vacant.

XV. These Bursaries are open to Students who are entering on their first Session in Divinity, and are tenable for three years. For further details and subjects of examination (which differ somewhat from the University Examination for first year's Bursaries), apply to the Rev. G. T. Jamieson, Clerk to the Presbytery of Edinburgh, The Manse, Portobello. *Bursars*—1897, *John Dickie, M.A.*; *A. J. Campbell, B.A.* 1898, *William A. Dunnett, M.A.*; *William Murdie, M.A.* 1899, *David Heggie*; *David H. Sawers.*

XVI. Founded by the late Thomas Lockerby, Esq., London. The Bursary is tenable for three years, and is open to "Students who desire to become ministers of the Church of Scotland only." See Excerpt from Disposition, page 545 of CALENDAR for 1890-91. *Bursar*—1898, *A. Scott Ballantynes.*

XVII. *Sharp Bursary.*—This Bursary is of the annual value of £18, tenable for four years. The Bursar must be a Student of Divinity of the Church of Scotland, and may prosecute his studies at any one of the Scottish Universities. Preference to any student being a native of or subject to the jurisdiction of the Presbytery of Perth. Apply to the Clerk to the Presbytery of Perth.

C.—PRESENTATION BURSARIES, open only to Graduates or Students who have passed the necessary Examinations for the Degree of M.A., but have deferred their Graduation with a view to Honours.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1695	Robert Bayne of Pitcairley.	£25 0 0	1	3	£25 0 0	Society of Sons of the Clergy.
II.	1695	James Nairne.	16 13 4	1	3	16 13 4	Prof. of Divinity.

I. By Ordinance, No. 71, of the Universities' Commissioners, and subsequent Order in Council, the following are the regulations as to this Bursary:—Each Bursar shall hold the Bursary for three years, subject to the condition that he shall, during that period, give regular attendance as a Student in Theology in the University of Edinburgh. No person shall hold the Bursary along with any other Bursary, or with any Scholarship in the University. *Bursar*

II. This Bursary is tenable for three years, or for such period as the Bursar shall give regular attendance as a Student of Theology in the University of Edinburgh. See Ordinance, No. 67, of the Universities' Commissioners, and subsequent Order in Council. *Bursar*—1898, *Bruce McEwen, M.A.*

D.—BURSARIES gained in Faculty of Arts, the holders of which are at liberty to study in the Faculty of Divinity.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1809	Dr Donald Grant, London.	£180 0 0 About	4	4	£45 0 0 About	Dr Grant's Trustees.
II.	1846	John Jamieson, Edinburgh.	26 0 0 About	1	4	26 0 0 About	Principal and two Professors.
III.	1871	The Sibbald Trustees.	150 0 0	5	3	30 0 0	The Trustees of Dr J. R. Sibbald.
V.	1889	Daniel Maclaurin, London.	62 10 0	1	4	62 10 0	Town Council.

I. *See* under Faculty of Arts.

II. *See* under Faculty of Arts.

III. *See* under Bursaries in Arts.

IV. *See* under Faculty of Arts.

## II.—PRIZES.

*See note under Bursaries, page 157.*

### I.—BARTY MEMORIAL PRIZE.

The Barty Memorial Prize of £20 for scholarship in Hebrew and Hellenistic Greek is open to entrants to the Divinity Halls of the four Scottish Universities.

### II.—HEPBURN PRIZE.

The Hepburn Prize of £25 (which may be divided), open to all Students in actual attendance at the Divinity Hall, may be awarded annually for an essay on a prescribed subject.

### III.-XII. THE GUNNING VICTORIA JUBILEE PRIZES.

With a view to promote the study of Natural Science among candidates for the ministry, and to bring out among ministers the fruits of study in Science, Philosophy, Language, Antiquity, and Sociology, Dr R. H. Gunning, of Edinburgh and Rio de Janeiro, has founded ten prizes in the Faculty of Divinity of the University of Edinburgh, to be known as "The Gunning Victoria Jubilee Prizes."

These prizes are ten in number, and comprise a series of five prizes of £50, £40, £30, £20, and £10, for excellence in Theological subjects, and a series of five prizes of similar values for excellence in Natural Science subjects. In their order the prizes in each series correspond in value. A minimum standard of proficiency will be required in each series. The successful competitors may each take both the prize in the Theological, and the prize in the Natural Science series to which their marks may respectively entitle them.

The prizes are competed for triennially at the close of the Divinity Session, and are open to all Students of the Church of Scotland, or other Scottish Churches holding the Confession of Faith, who are gradu-

ates of this University, or have attended two classes in the Faculty of Divinity in this University, and who have completed their Theological curriculum within two years of the close of the session when the competition takes place.

The examination in the Natural Science series will be on Natural History, Botany, and Geology, and of the same standard as the First B.Sc. Examination in Pure Science. The examination in the Theological series will be in Theology proper, the Language and Literature of the Old Testament, Ecclesiastical History, and Biblical Criticism.

The Examiners are the Professors of the subjects of examination in the University of Edinburgh; with the addition of a member of the Senatus of the New College, to be appointed by the Faculty of Divinity. See Revised Scheme, p. 519 of CALENDAR 1889-90.

The next examination under this scheme will be held at the close of Session 1901-1902.

1899. *Theological Series*—1st Prize not awarded.

2nd „ not awarded.

3rd „ James Young Simpson, M.A.

4th „ not awarded.

5th „ not awarded.

*Natural Science Series*—1st Prize not awarded.

2nd „ James Young Simpson, M.A.

3rd „ not awarded.

4th „ not awarded.

5th „ not awarded.

### III.—SCHOLARSHIPS.<sup>1</sup>

See note under *Bursaries*, page 157.

#### I.—PITT CLUB DIVINITY SCHOLARSHIP.

This Scholarship was instituted in 1862 by the Pitt Club, is of the annual value of £99, 11s. 6d. (under deduction of Examiners' fees), and tenable for three years. By Ordinance No. 77, of the Universities' Commissioners, this Scholarship is open to competition to all Masters of Arts of any of the Universities of Scotland who have given regular attendance in the Faculty of Divinity in the University of Edin-

<sup>1</sup> It has been agreed by the Senatus and the Faculty of Divinity, in regard to the Fellowships and Scholarships of the funds of which they are severally the administrators, that

1. The *Pitt Theological Scholarship* shall be competed for when it falls vacant.

2. The *Aitken Theological Scholarship* shall be reserved from competition when it falls vacant in the same year with the Pitt.

3. The *Glover Divinity Scholarship* shall (according to its conditions) not be open to competition when the Pitt or Maxton may be open, and shall be similarly reserved when the Aitken is open.

4. That meanwhile the *Maxton* be competed for when it is vacant.

burgh for three complete Sessions, and who are in the course of studying, with the view of becoming Clergymen of the Church of Scotland. No person is admissible who has been entered as a Student of Divinity more than six years prior to the time of the competition.

Candidates are examined on (1) The Evidences of Revealed Religion; (2) Systematic Theology; (3) Hebrew; (4) Church History; (5) Biblical Criticism. It cannot be held with any other Scholarship, Fellowship, or Bursary of any Scottish University, or along with any parochial or pastoral charge, whether as minister or assistant.

1898. *Alexander M. Gordon, M.A.*

## II.—MAXTON DIVINITY SCHOLARSHIP.

This Scholarship was founded by the Trustees of the late John Maxton, Esq., in 1867, is of the annual value of £42, 8s. (under deduction of Examiners' fees), and is tenable for three years. It is open only to Students who are members of the Established Church of Scotland, and who have completed the course of study in the Faculty of Divinity in the University of Edinburgh. *See* Deed of Foundation, at p. 234 of CALENDAR for 1867-68.

1899. *Andrew Tweedie, M.A., B.D.*

## III.—THE GLOVER DIVINITY SCHOLARSHIP.

This Scholarship was founded in 1875 by Subscribers to a Fund for commemorating the memory of the Rev. W. Glover, D.D., and by the University Endowment Association. It is of the annual value of about £36 (under deduction of Examiners' fees), tenable for three years, and open to all Masters of Arts of any of the Universities of Scotland who have finished their study of Theology, before entering the Church of Scotland, within six years, and who have attended the last Session of their course at least in the University of Edinburgh. It cannot be held with any other Divinity Scholarship or Bursary in any Scottish University, and it is not offered for competition in any year where there is a vacancy in the Pitt Divinity Scholarship or the Maxton Divinity Scholarship. *See* Deed of Foundation, at p. 343 of CALENDAR for 1875-76.

1900. *C. Gordon Mackenzie, B.D.*

## IV.—THE AITKEN THEOLOGICAL SCHOLARSHIP.

This Scholarship, founded in 1875 by bequest of the Rev. David Aitken, D.D., formerly minister of Minto, is of the annual value of £99, 15s. (under deduction of Examiners' fees). Its purpose is to make provision for the study of Church History and Biblical Criticism at one or more University Seats in Germany, or elsewhere on the Continent of Europe, in the case of meritorious students at Edinburgh University. It is to be awarded, after competitive examination (on due proficiency being shewn), to a Student in Divinity of the University of Edinburgh, who is a Graduate in Arts of that University of not more than four years' standing. It is tenable for two years; but the Senatus

may extend the term for another year if it appear to them desirable. The time of the competition to be fixed and publicly intimated by the Senatus at least three months before; and the Senatus are also at liberty to prescribe whether one Semester or two Semesters in the foreign University shall be attended in each year. It is not offered for competition in the same year as the Pitt Divinity Scholarship or the Glover Divinity Scholarship. *See* Deed of Foundation at p. 344 of CALENDAR for 1876-77.

#### V.—THE DAVID KIDD DIVINITY SCHOLARSHIP.

This Scholarship, which is of the annual value of £36 (under deduction of Examiners' fees), is tenable for three years, and is awarded, after competitive examination in Theology (same as for B.D.), to students of any of the Universities of Scotland who are natives of Scotland, and who have finished their course of study with the view of becoming Ministers of the Church of Scotland. *See* Deed of Foundation in CALENDAR for 1879-80, p. 354.

1898. *Alexander W. Mitchell, M.A.*

#### VI.—VANS DUNLOP SCHOLARSHIP IN HEBREW AND ORIENTAL (SEMITIC) LANGUAGES.

The Competition is open to all who have been Matriculated Students for not less than two years in this University, and who have not completed six academic years either in this University alone or in this and any other University or Universities together; and who have attended at least two courses under the Professor of Hebrew and Oriental Languages. For General Regulations, see under Faculty of Arts.

Candidates will be examined in Hebrew, Syriac, and Arabic.

The Examiners are the Professor of Hebrew and Semitic Languages, and an Examiner appointed by the Senatus. The next Competition will take place at the end of March 1902.

1899. *Richard Bell, M.A.*

#### VII.—VANS DUNLOP SCHOLARSHIP IN HISTORY.

(*See Scholarships in Faculty of Arts.*)

#### VIII.—BRUCE OF GRANGEHILL AND FALKLAND SCHOLARSHIPS.

These Scholarships were founded in 1865 by Mrs Tyndall Bruce of Falkland, and are of the annual value of £100. They come into operation only when a vacancy occurs in any one of the three Scholarships of this name in the Faculty of Arts, by the death, resignation, or dismissal, of a Scholar during the period of his tenure of the Scholarship; and are tenable in this Faculty during the remainder of that

period. They cannot be held with any other Scholarship or Fellowship of a Scottish University, or with any situation yielding an income of £100 a year. The subjects of Examination are prescribed from time to time by the Faculty.

1899. *George Douglas Shepherd, M.A.*

#### IX. and X.—THE JEFFREY SCHOLARSHIPS.

These Scholarships, two in number, were founded in 1887 by Miss Jane Jeffrey of Victoria Terrace, Portobello. They are each of the annual value of about £65 (under deduction of Examiners' fees), and are tenable for one year. They are awarded annually for special proficiency in the subjects embraced in each of the four departments of Divinity, Hebrew and Semitic Languages, Ecclesiastical History, and Biblical Criticism; and are open to Students of Divinity in connection with the Church of Scotland who shall have given regular attendance for at least one Session on the Divinity Classes in this University, including the class with which the Scholarship competed for is specially connected. They are competed for in the following order:—first year, Divinity, and Hebrew and Oriental Languages; second year, Ecclesiastical History and Biblical Criticism; and so on from year to year. At the close of Session 1900-1901 the Scholarships in Hebrew and Divinity are open. See Deed at page 497 of CALENDAR for 1888-89.

1900. *Ecclesiastical History*—*John Dickie, M.A.*

*Prox. access.*, *A. B. Robb, M.A.*

*Biblical Criticism*—*Richard Bell, B.D.*, and *W. A. Curtis, M.A.*—equal.

#### XI.—COBB SCHOLARSHIP.

This Scholarship, founded in 1889, is a bequest by the late Miss Matilda Johnston Cobb, Broughty Ferry. It is of the annual value of £30 (under deduction of Examiners' fees), and is tenable for three years. The subjects of Examination are Hebrew, Greek, Latin, and Mathematics, and the Scholarship is open to competition amongst Students who are entering on the study of Divinity with a view to becoming Ministers of the Church of Scotland.

1899. *Andrew M. Anderson, M.A.*

#### XII. GRAY SCHOLARSHIP FOR RESEARCH.<sup>1</sup>

#### XIII.—THE SWINEY LECTURESHIP ON GEOLOGY.

This Lectureship is open to Graduates in any of the Faculties in the University who have obtained their Degrees after examination. For further particulars, see page 276.

<sup>1</sup> For particulars, see Scholarships in the Faculty of Arts.



SCHOLARSHIPS, BURSARIES, AND UNIVERSITY PRIZES,  
OPEN FOR COMPETITION IN THE FACULTY OF DIVINITY DURING  
THE ACADEMIC YEAR COMMENCING 1ST OCTOBER 1900.<sup>1 2</sup>

I. PRESENTATION BURSARIES.<sup>3</sup>

1. *The M'Lurg and Penman*, No. II., page 291. May be open.
2. *The James Nairne*, No. II., page 295. May be open.

II. COMPETITION SCHOLARSHIPS AND BURSARIES.<sup>3</sup>

The Bursary Examination at the beginning of Session 1900-1901 will be held on Friday, 2nd, and Saturday, 3rd November, commencing at 10 A.M. each day, when the following Bursaries will be open for competition :—

1. *The Buchanan Bursary*, No. I., page 292.
2. *The Struthers and Leighton Bursary*, No. II., page 293.
3. *One Webster Bursary*, £30, 15s. 6d., No. VII., page 294.
4. *One Thomson Bursary*, No. VIII., page 294.
- 5, 6. *Two Ettles Bursaries*, No. V., page 293.
7. *Renton Bursary*, No. XIII., page 294.

The subjects of examination for the above, and for *any other ordinary competition Bursary for first year's Students that may be vacant* at the opening of the Session will be—

- (1.) *Latin*—Tertullian's "Apologeticus," and translation from English into Latin prose.
- (2.) *Greek Testament*—Romans, 1 Corinthians, and translation from English into N. T. Greek.
- (3.) *Mathematics*—"Euclid," Books I.-VI.; Algebra and Elementary Trigonometry.
- (4.) *Moral Philosophy*—Seth's "Study of Ethical Principles"
- (5.) *Hebrew*—Davidson's Grammar and Exercises.
- (6.) *Apologetics*—Flint's "Antitheistic Theories."

8, 9, 10. *Grierson Bursaries*, No. VI., page 293. Preferential candidates to lodge their applications with the *Clerk of Senatus* on or before 1st November 1900.

<sup>1</sup> *Note*.—None of the undernoted Bursaries or Scholarships can be held along with any other Bursary, Fellowship, or Scholarship in any Scottish University. None of the after-mentioned Prizes are subject to this condition.

<sup>2</sup> The values of the Scholarships, Bursaries, and Prizes are subject to variation consequent on the rise or fall of the rate of interest, &c. For further information and for information regarding other Scholarships, Bursaries, and Prizes, &c., see above.

<sup>3</sup> See Note under Scholarships, page 173.

The subjects of examination for the Grierson Bursaries, if there be competition, will be :—

For the *first* year—

Same as for ordinary Competition Bursaries, except that *Apologetics* is omitted.

For the *second* year—

- (1.) *Latin*—Lucretius, Book V., and Livy, Book II.
- (2.) *Greek Testament*—Gospel of St Matthew and 2 Corinthians.
- (3.) *Hebrew*—Grammar ; Joshua, chapters i.-x. inclusive ; Psalms i.-viii. inclusive ; Hebrew Prose Composition.
- (4.) *Divinity*—The Doctrine of the Kingdom of God ; Doctrine of the Church.
- (5.) *Ecclesiastical History*—To 325 A.D.
- (6.) *Biblical Criticism*—Introduction to the Synoptic Gospels.

For the *third* year—

- (1.) *Apologetic Theology*—Butler's "Analogy."
- (2.) *Hebrew*—Class Work of preceding Winter Session.
- (3.) *Ecclesiastical History*—To 325 A.D., and of Scotland, 1500 A.D. to 1600 A.D.
- (4.) *Biblical Criticism*—The First Epistle to the Corinthians (Introduction and Exegesis).

11, 12. *Two Simson Bursaries*, No. XV., page 295.

13. *A Hepburn Prize*, £25 (which may be divided), for the best Essay. Subject—"A Criticism on Kant's Theory of Religion," to be competed for by Students of second or subsequent year. The Essay not to exceed fifty pages 4to, and to be handed to Rev. Dr Scott, 16 Rothesay Place, Edinburgh, on or before 1st December 1900.

14. *Barty Memorial Prize*, of about £20, for Scholarship in Hebrew and Hellenistic Greek, is open to entrants to the Divinity Halls of the four Scottish Universities. Competitors to apply to J. W. Barty, Esq., Dunblane.

15-17. *Three Hepburn Bursaries* (each about £14), open for competition by all Students of first or second year in Divinity. For one of these, preference given to Gaelic-speaking Students. Subjects of Examination : Butler's "Analogy," and Lightfoot's "Epistle to the Galatians," with the Introduction, Notes, and Dissertations. For particulars, apply to the Rev. Dr Scott, minister of St George's, Edinburgh, or Rev. G. T. Jamieson, Clerk to the Presbytery of Edinburgh, The Manse, Portobello.

At the close of Session 1900-1901, the following may be open for competition :—

1. *The Pitt Club Scholarship*, No. I., page 297. Candidates are examined on (1) The Evidences of Revealed Religion; (2) Systematic Theology; (3) Hebrew; (4) Church History; (5) Biblical Criticism. It cannot be held with any other Scholarship, Fellowship, or Bursary of any Scottish University, or along with any parochial or pastoral charge, whether as minister or assistant.

2, 3. *Two Jeffrey Scholarships*, Nos. IX., X., page 300.

The subjects of Examination are :—

*Divinity—*

1. The General History of Christian Dogmatics during the Nineteenth Century in English-speaking Countries.
2. The Christian Doctrine of Man.
3. The Christian Doctrine of Justification, and the controversies connected with it.

*Semitic Languages (Hebrew and either Syriac or Arabic)—*

1. Hebrew. I Samuel (with H. P. Smith's Commentary), Hosea, Nahum, Psalms, Book i., Hebrew Prose Composition.
2. Syriac. St John's Gospel and the Biblical extracts in Roediger's Chrestomathy. Grammar and easy sentences to translate into Syriac.
3. Arabic. Jacob's Bible Chrestomathy and Bruennow's Chrestomathy, pp. 1-22. Grammar and easy sentences to translate into Arabic.

4. *The David Kidd Scholarship*, No. V., page 299.

5. *One King William Bursary*, No. IV., page 293. The Subjects of examination for this Bursary will be the work of the Session in the Classes of Divinity, Ecclesiastical History, Biblical Criticism, and Junior Hebrew.

6, 7. *Two Robert Hunter Bursaries*, No. XIV., page 294.

### III. FUNDS FOR SPECIAL STUDY AND RESEARCH.

1. *William Dickson Travelling Fund*. See page 187.

2. *Earl of Moray Bequest for the Promotion of Original Research*. See page 187.

### IV. PRIZES.<sup>1</sup>

1. *The Lord Rector's Prize*, of twenty-five guineas, for the best Essay on "Outline of events which in the beginning of the Eighteenth Century led to the Union of Scotland with England." The Prize is open to Students of the University, and to Graduates of not more than

<sup>1</sup> See Note under Scholarships, page 173.

two years' standing. Essays to be lodged with the Secretary of Senatus before 1st November, each bearing a motto, and containing the name, address, and University standing of the Candidate.

2. *The Trustees of Gray's Prize Essay Fund* may offer three Prizes of £15, £10, and £5 for the first, second, and third best Essays on "The Ballad Literature of Scotland." For further information apply to the Rev. John Blackwood Munro, Duns, Secretary to the Trustees.

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The attention of all Bursars in the Faculty of Divinity is particularly called to the following Regulation :—

"Each Bursar must present a Certificate, signed by the Dean, attesting his regular attendance on the proper Classes in the Faculty of Divinity on each occasion on which he applies to the Factor for a payment. Payments are made by the Factor for the University, Mr Henry Cook, W.S., 61 North Castle Street, Edinburgh, on and after 14th November for the Martinmas payments, and on and after 18th May for the Whitsunday payments,—between 10 and 3 o'clock.

N.B.—*Bursars, Scholars, and Fellows who desire to resign should at once announce this to the Factor. They must apply to the Factor for the instalments due to them within three months after they have become payable, otherwise they will be regarded as having resigned.*

JOHN PATRICK, D.D.,  
*Dean of the Faculty of Divinity.*

# Faculty of Law.

Dean—Professor Sir LUDOVIC J. GRANT, Bart., B.A.

## PROGRAMME OF CLASSES.

### WINTER SESSION, 1900-1901.

*The Classes in the Faculty of Law will open as follows, and will close on Saturday, 16th March 1901.*

Classes.	Days of Opening, and Hours of Lectures.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Public Law <sup>2</sup> (i.e. a half-course in Jurisprudence and a half-course in Public International Law)	16 Oct., 2 o'cl.	Prof. Sir Ludovic J. Grant, Bart.	£4 4 <sup>3</sup>
Civil Law <sup>2</sup> .....	16 Oct., 4 „	Prof. Mackintosh	5 5 <sup>4</sup>
Scots Law .....	16 Oct., 9 „	Prof. Rankine .....	5 5 <sup>4</sup>
Constitutional Law and History <sup>5</sup> .....	16 Oct., 5 „	Prof. Kirkpatrick.	4 4 <sup>3</sup>
Conveyancing .....	16 Oct., 9 „	Prof. Mounsey ....	4 4
Political Economy <sup>2</sup> ..	16 Oct., 5 „	Prof. Nicholson {	3 3 <sup>3</sup>
Do. (Honours Course) <sup>2</sup> .....	18 Oct., 3 „		3 3 <sup>3</sup>
Procedure and Evidence <sup>6</sup> .....	16 Oct., 5.30 „	J. J. Cook, LL.B.	2 2

### SUMMER SESSION, 1901.

*The Classes in the Faculty of Law will open as follows, and will close on Wednesday, 17th July.*

Classes.	Days of Opening, and Hours of Lectures.	Professors and Lecturers.	Class Fees. <sup>1</sup>
Civil Law .....	14 May, 9 o'clock	Prof. Mackintosh.	£5 5 <sup>4</sup>
Scots Law .....	14 May, 9 „	Prof. Rankine .....	5 5 <sup>4</sup>
Forensic Medicine....	1 May, 2 „	{ Prof. Sir Henry D. Littlejohn.	4 4
International Private Law <sup>6</sup> .....	14 May, 5 „	{ N. J. D. Kennedy, M.A. }	2 2

<sup>1</sup> Matriculation Fees: Year, £1, 1s.; Summer, 10s. 6d. Second attendances: On £5, 5s. or £4, 4s. Courses, £3, 3s.; on £3, 3s. Courses, £2, 2s. On Half-Courses: First half, no reduction; second half, £1, 1s.; on Procedure and Evidence and International Private Law, second attendances, £1, 11s. 6d.; third or subsequent attendances on any Class, £1, 1s. \*

<sup>2</sup> Qualifying also for the degree of M.A.

<sup>3</sup> For a Half-Course, £2, 2s.

<sup>4</sup> This Fee is paid in Winter, and includes the Winter and Summer Sessions. Fee for Winter Session only, £4, 4s.; for Summer Session only, £2, 2s.

<sup>5</sup> Qualifies either as an optional Arts subject, or as "History" as specified in § VII., 2 (b) of the Arts Regulations.

<sup>6</sup> Five shillings University entrance fee for non-matriculated Students. Payment of this fee does not entitle the Student to a Class Certificate nor to any other University privilege.

## Courses of Lectures.

1900-1901.

### I. CIVIL LAW.

PROFESSOR MACKINTOSH.

The full Course extends over a Winter and a Summer Session, covered by one fee of £5, 5s.

The Winter Course is the same as for Graduation in Arts; see Courses in Arts. The Summer Session is devoted to the doctrines of (1) Wills and Succession, (2) Obligations and Contract. The Contract of Sale will be dealt with in detail.

The Lectures are equally adapted for students qualifying for the legal profession in Scotland or England, or for service in India or the Colonies.

*Text-Books.*—The Institutes of Gaius and Justinian, and the Professor's "Roman Law of Sale."

The "Muirhead Prize" and the "Forensic Prize" are offered annually for competition.

### II. SCOTS LAW.

PROFESSOR RANKINE, Q.C., LL.D.

Students are recommended to make themselves familiar either with Erskine's "Principles" or his "Institutes" (edition by J. Badenach Nicolson, Esq., 1871). The nineteenth edition of the former work will be the text-book of the Class.

1. Sketch of the Literature of the Law of Scotland—the sources of the Law—the interpretation of Statutes.

2. Personal Relations—marriage and the modes of proving it—patrimonial effects of Marriage—rights of husband and wife—dissolution of Marriage—divorce—tutors and curators—minors—insane—parent and child—succession—heritable and moveable—wills—trusts.

3. Wrongs—personal injury—defamation—ownership of heritable property—rights and liabilities incident thereto—ownership of moveables—copyright—patents.

4. Obligations and Contracts—general requisites, constitu-



tion, and construction — partnership — joint-stock companies — factory and agency — sale — letting to hire — leases — carriers — shipping — insurance — bills of exchange — extinction of obligations — diligence — bankruptcy.

5. Parochial Law — burgh and county law — rates and taxes.

6. Criminal Law.

*Summer Session.*

The Lectures on Criminal Law, and part of the lectures on the above subjects, are delivered during the Summer Session.

### III. CONVEYANCING.

PROFESSOR MOUNSEY.

The following Synopsis of the Lectures in Conveyancing was revised by Professor Wood before his resignation.

The Course embraces the following subjects :—

BRANCH FIRST—*Deeds in General.*

1. Requisites as to external form, and the solemnities of execution and authentication. 2. Deeds privileged as regards these solemnities. 3. Delivery and acceptance.

BRANCH SECOND—*Deeds relating to Feudal Rights.*

1. The feudal system and its bearing on the existing state of heritable rights in Scotland. 2. The writs constituting a feudal estate. 3. Writs used in the voluntary transmission of lands. 4. Services and Destinations. 5. Settlements and Marriage Contracts, as relating to heritage. 6. Entails.

BRANCH THIRD—*Miscellaneous Rights relating to Heritable Estate.*

1. Servitudes. 2. Leases. 3. Adjudications and Inhibitions. 4. Sequestrations. 5. Trust Deeds for Creditors. 6. Rights in Security.

BRANCH FOURTH—*Miscellaneous Writs, relating mainly to Moveable Rights.*

1. Submissions. 2. Securities over moveables. 3. Cautioner's Writs. 4. Life Insurance Policies Writs. 5. Discharges. 6.

Partnership and Company Deeds. 7. Factories. 8. Wills and Marriage Contracts. 9. The Death Duties.

#### IV. PUBLIC LAW.

PROFESSOR SIR LUDOVIC GRANT, BART.

Two Courses will be delivered during the Session 1900-1901 : (1) Forty Lectures on General Jurisprudence (Philosophy of Law) ; and (2) Forty Lectures on Public International Law.

1. The Course on Jurisprudence will begin on Tuesday, 16th October 1900, at two o'clock.

(1) Analytical and Historical Jurisprudence.

(a) Law and Morality—The Evolution of Law—Archaic Types of Law—Modern Law—The State and Legal Sovereignty.

(b) The Sources of Law—Custom—Religion—Juridical Interpretation—Judicial Decision—Legislation.

(c) The Subject-matter of Law—Rights and Duties—Substantive Law and Adjective Law—Person—Things—Acts.

(d) The Classification of Law.

(2) Philosophical Jurisprudence — The Basis of Political Obligation — The Conception of Justice — The Source of Rights—Examination of Institutions.

*Books of Reference.*—The Student's Austin. Holland, Jurisprudence. Markby, Elements of Law. Sir Henry Maine's works. Pollock, History of Political Science, and First Book of Jurisprudence. Clark, Practical Jurisprudence. Dicey, Law of the Constitution. Jenks, Law and Politics in the Middle Ages. Green, Principles of Political Obligation. Ritchie, Natural Rights. Ahrens, Cours du Droit Naturel. Bluntschli, The Theory of the State. Lorimer, Institutes of Law.

2. The Course on Public International Law will begin on 8th January 1901.

(a) An Historical Retrospect. (b) Some Account of the Science and Literature of Public International Law.

(c) An examination of the sources and a critical ex-

position of the leading doctrines of Public International Law.

*Books of Reference.*—Ward, Enquiry into the Foundation and History of the Law of Nations. Wheaton, History of the Law of Nations; Introduction. Nys, Les Origines du Droit International. Walker, History of the Law of Nations. Westlake, International Law. Phillimore, International Law, Vol. I. Bryce, Holy Roman Empire. Pardessus, Us et Coutumes de la Mer. Hall, International Law. Wheaton, International Law. Lawrence, Principles of International Law. Rivier, Principes du Droit des Gens. Hertslet, Map of Europe by Treaty. Letters by Historicus. Pitt Cobbett, Select Cases. Holland, Studies in International Law.

## V. CONSTITUTIONAL LAW AND HISTORY.

PROFESSOR KIRKPATRICK, LL.D.

A full Winter Course, qualifying for Graduation in Law and in Arts [either as an optional Arts subject, or as "History," as required by section VII., 2 (*b*) of the Arts Regulations], Tuesdays, Wednesdays, Thursdays, and Fridays, at 5. Eight examinations and two essays during the Session. Honours for examinations and essays combined.

*Subjects:*—(1st Half) Constitutional History and Law of England; (2nd Half) Constitutional History of America, France, Germany, Switzerland, &c.

*Text-Books.*—(1) Elementary: Taswell Langmead's Constitutional History, and S. R. Gardiner's Student's History of England. For further study, Stubbs's Select Charters and English Constitutional History; Hallam's Middle Ages, Chap. viii.; Hallam's Constitutional History of England; Sir T. E. May's Constitutional History; English Constitution by W. Bagehot; Guizot's Lectures on Representative Government; R. Gneist's Self-Government in England, 3d edition, Berlin, 1871; Gneist's Geschichte und heutige Gestalt der Aemter, etc., in England, 2d edition, Berlin, 1866; Gneist's English Constitution, translated by P. A. Ashworth, London, 1886;

Blackstone's Commentaries, Book IV., of Public Rights : Dicey's Law of the Constitution.

(2) Elementary : Thwaites' The Colonies, and Hart's Formation of the Union (Epochs of American History), Johnston's History of the United States, Macy's Our Government. For further study, Bryce's American Commonwealth, Bancroft's History of the Constitution of the U.S.A., Winsor's History of the U.S.A., Adams and Cunningham's Swiss Confederation, Dareste's or Demombynes' Constitutions, Boutmy's Studies in Constitutional Law, Borgeaud's Adoption and Amendment of Constitutions, A. Lawrence Lowell on Governments and Parties in Europe," &c.

The History Reading-Room (adjoining the Lecture Room) is open to all members of the Class on Mondays and Fridays, from 11 to 1, and on Wednesdays, 12 to 2.

Twenty Lectures on "The English Kingship," by Mr D. P. Heatley, the University Assistant in History, on Wednesdays at 11 (free to all members of the Class).

## VI. FORENSIC MEDICINE.

PROFESSOR SIR HENRY D. LITTLEJOHN, M.D., LL.D.

For Synopsis of this Course, *see* under Faculty of Medicine.

## VII. COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

For Synopsis of this Course, *see* under Faculty of Arts.

## VIII. INTERNATIONAL PRIVATE LAW.

*Lecturer*—N. J. D. KENNEDY, M.A.

A Course of Forty Lectures on this subject will be given during the Summer Session on Tuesday, Wednesday, Thursday, and Friday in each week, at 5 P.M. Under Ordinances 39 and 40 attendance on these Lectures qualifies as a half-course for Graduation in Law. The subject is also included among those in which Intrants to the Faculty of Advocates may be examined,

and the Lectures are therefore adapted for students qualifying for the Scottish Bar.

The Lectures will deal with (a) The nature and scope of International Private Law; (b) Its History and Literature; (c) Its general principles and their application in regard to—  
i. *Forum*, or Competency, including Jurisdiction, the Recognition of Foreign Judgments, and Procedure generally; and  
ii. *Lex*, or Choice of Law, in questions of (1) the Personal Law, including *status*, and the family relations; (2) the Law of Property, moveable and immoveable; (3) the Law of Obligations, including contract and delict; (4) Succession; and (5) Bankruptcy.

Examinations will be held on the subjects of the Lectures.

Students are recommended to attend the Class of Scots Law before attending this Course.

*Books of Reference.*—Guthrie's Savigny; Westlake's Private International Law; Gillespie's Bar; Foote on Private International Jurisprudence; and Dicey's Digest of the Law of England with reference to the Conflict of Laws.

## PROCEDURE AND EVIDENCE.

*Lecturer*—J. J. COOK, LL.B.

This Course of Forty Lectures will describe the various Courts of Scotland, with the nature of their jurisdiction, the actions competent in each, and the details of the procedure followed in them. It will also include the principles of the Law of Evidence. The Lectures are delivered on Tuesday and Thursday of each week during the Winter Session.

*Text-Books.*—Mackay's "Manual" and "Practice of the Court of Session"; Coldstream's "Procedure in the Court of Session"; Dove Wilson's "Sheriff-Court Practice in Civil Causes"; Macdonald's "Criminal Law"; Macdonald's "Criminal Procedure (Scotland) Act, 1887"; Dickson on "Evidence"; Kirkpatrick on "Evidence."

Candidates for Graduation who pass in Procedure and Evidence as an extra subject may have this fact recorded on their Diplomas.

## Regulations for Graduation in Law.

*For Regulations for those who began the Study of Law, with a view to Graduation, before 1st October 1895, see CALENDAR for 1896-97 or previous CALENDARS.*

Two Degrees in Law are conferred on Examination, viz., Bachelor of Law (B.L.) and Bachelor of Laws (LL.B.). Either Degree admits to the profession of Law Agent, provided the Candidate has included Scots Law and Conveyancing among his Graduation subjects, and has passed an Examination in the Practice of the Courts under the Law Agents Act.

The Degree of LL.B. (if the Candidate has been examined in Civil Law, Philosophy of Law, International Law—Public or Private—Constitutional Law and History, Medical Jurisprudence, Scots Law—Civil and Criminal, including Procedure—and Conveyancing admits to the profession of Advocate.

Two Law Graduation Examinations are held annually, the first beginning on the last Monday in October, and the second on the third Monday in March.

### I. BACHELOR OF LAWS (LL.B.).

I. No one is admitted to examination as a Candidate for the Degree of Bachelor of Laws (LL.B.) unless he be a Graduate in Arts of one of the Universities of the United Kingdom; or of any Foreign or Colonial University specially recognised for the purpose by the University Court.<sup>1</sup>

II. The course of study in Law for the Degree of Bachelor of Laws includes the following subjects:—<sup>2</sup>

- (1) Jurisprudence, General or Comparative, during a course of not less than forty lectures.
- (2) The Law of Nations, or Public International Law, during a course of not less than forty lectures.
- (3) Civil Law, during a course of not less than eighty lectures.
- (4) Law of Scotland, or Law of England, during a course of not less than eighty lectures.
- (5) Constitutional Law and History, during a course of not less than eighty lectures.
- (6) Conveyancing, during a course of not less than eighty lectures; or Political Economy, or Mercantile Law, during a course of not less than eighty lectures.
- (7) Any two of the following subjects, namely:—International Private Law, Political Economy, Administrative Law, and

<sup>1</sup> The following Degrees have been recognised in terms of this Section: B.A. of New Zealand University; B.A. of Cape of Good Hope University; B.A. of Dalhousie University, Halifax, Nova Scotia; Queen's College, Kingston, Canada; B.A. of the Universities of Calcutta, Madras, Harvard, and Michigan.

<sup>2</sup> For names of authorised extra-academical lecturers, see under Faculty of Medicine.



Forensic Medicine ; in each case during a course of not less than forty lectures.

III. (1) The course of study necessary for the Degree of Bachelor of Laws extends over three academical years, one of which at least must be spent in the University in which the Candidate intends to graduate, the other two may be spent in any other University or School of Law, specially recognised by the University Court.<sup>1</sup>

(2) No Candidate for a Degree is deemed to have attended a class as part of the course of study necessary for that degree who does not present a certificate bearing not only that he has given regular attendance, but also that he has duly performed the work of the class.

IV. Candidates must undergo examination in the subjects prescribed in Section II. hereof ; and they must pass at one examination in at least two of these subjects. Before presenting themselves in any subject the Candidates must have attended the requisite course of instruction in such subject. Candidates who have passed an examination for another degree in any of the said prescribed subjects in the same University may be exempted from examination in such subject or subjects, provided that the examiners are satisfied that the previous examination in such subject or subjects has been passed on a sufficiently high standard.

V. Every Candidate for the Degree of Bachelor of Laws is examined both orally and in writing on each of the subjects in the course of study above prescribed, in which he presents himself for examination.

VI. (1) Distinction may be awarded to Candidates who have displayed exceptional merit in their examinations.

(2) For the Degree of Bachelor of Laws a diploma is given, setting forth the subjects in which the Candidate has passed, and the distinction (if any) he has attained.

Candidates for Examination or Graduation must matriculate for the year.

## II. BACHELOR OF LAW (B.L.).

I. No one is admitted to examination as a Candidate for the Degree of Bachelor of Law (B.L.) unless he be a Graduate in Arts of one of the Universities of the United Kingdom, or of any Foreign or Colonial University specially recognised for the purpose by the University Court ;<sup>2</sup> or until he has passed—*A.* The Preliminary Examination in the Faculty of Arts, or its equivalent, and *B.* An examination in one of the Scottish Universities, to be conducted by the Examiners in Arts, in the following subjects, on the Standard of Examination for the Ordinary Degree of Master of Arts :—

(1) Logic and Psychology ; or, in the option of the Candidate,

<sup>1</sup> Recognised in terms of this section : the Universities of Oxford, Cambridge, and Dublin ; the Inner and Middle Temples ; Lincoln's Inn ; and Gray's Inn ; the Madras Law School ; College of Law, University, Minnesota.

<sup>2</sup> See Footnote 1, page 312.

Moral Philosophy. (2) Latin. (3) One additional Arts subject, not being one of those which belong also to the Faculty of Law.

And he must have studied at least one of these subjects in a full course in a Scottish University, or an equivalent course in another University approved by the University Court.

II. The course of study in Law necessary for the Degree of Bachelor of Law must include the following subjects:—

(1) Civil Law, during a course of not less than eighty lectures; or a half-course in Civil Law where in any University a full course is not available; provided that in the latter case, Candidates who are not already graduates in Arts are required to take in addition a course in such subject in Arts as may be sanctioned by the *Senatus Academicus*, or a half-course in one or other of the following branches of Law:—(a) Jurisprudence, General or Comparative. (b) The Law of Nations, or Public International Law. (c) Constitutional Law and History. (d) International Private Law. (e) Mercantile Law. (f) Administrative Law.

(2) Law of Scotland, during a course of not less than eighty lectures.

(3) Conveyancing, during a course of not less than eighty lectures.

(4) Forensic Medicine, during a course of not less than forty meetings of the class; or, in the option of the Candidate, a half-course in one of the branches of Law specified in sub-section I of this section, if not already taken.

III. (1) The course of study in Law necessary for the Degree of Bachelor of Law extends over two Academical years.

(2) No Candidate for a Degree is deemed to have attended a class as part of the course of study necessary for that degree who does not present a certificate bearing not only that he has given regular attendance, but also that he has duly performed the work of the class.

(3) The Candidate may prosecute his studies during the prescribed two years in one Scottish University, or in different Scottish Universities, or in a Scottish University and a University or School of Law specially recognised by the University Court; but one at least of these years must be spent, and all the examinations in the subjects mentioned in the preceding section must be passed, at the University in which he intends to graduate.

IV. The Candidate for the Degree of Bachelor of Law must undergo examination and pass in the four or more subjects selected by him; but he may present himself for examination in one subject or group of subjects at a time, provided that he has completed the course of study for such subject or group of subjects, and provided also that in that case a higher standard of proficiency shall be exacted.

V. Every Candidate for the Degree of Bachelor of Law is examined, both orally and in writing, on each of the subjects in the course of study above prescribed, in which he presents himself for examination.

VI. (1) Distinction may be awarded to Candidates who have displayed exceptional merit in their examinations.

(2) For the Degree of Bachelor of Law a diploma is given, setting

forth the subjects in which the Candidate has passed, and the distinction (if any) he has attained.

Candidates for Examination or Graduation must matriculate for the year.

## EXAMINATIONS.

### I. PRELIMINARY EXAMINATIONS FOR BACHELOR OF LAW (B.L.).

*For outlines of the subjects of the Preliminary Examination (a) on the Standard of the Preliminary Examination for the Degree of Master of Arts (M.A.), and (b) on the Standard of the Ordinary Degree of M.A., see Regulations for Degrees in Arts, where the dates of entering for the Examinations and payment of the Fees, and the dates of the Examinations, are given.*

### II. LAW EXAMINATIONS (FOR DEGREES OF LL.B. AND B.L.).

*Subjects for October 1900 (and till further notice).<sup>1</sup>*

IN GENERAL JURISPRUDENCE the subjects will be *The Philosophy of Law and Civil Society*, and *Analytical and Historical Jurisprudence*. For books recommended see Synopsis of the Professor's Lectures.

IN PUBLIC INTERNATIONAL LAW the examination will be in the doctrines of the Law and the historical and scientific questions connected therewith. For books see Synopsis of the Professor's Lectures.

IN CIVIL LAW the examination will be on the History of the Law, and on its Principles as explained in the Institutes of Gaius and Justinian. Candidates for LL.B. will also be examined on Books xviii., tit. i. (*De contrahenda emptione*) and xix., tit. i. (*de actionibus empti et venditi*) of the Digest. The paper will contain passages for translation into English from the Latin text of the above-mentioned books.

IN CONSTITUTIONAL LAW AND HISTORY — (a) Constitutional History and Law of England, down to the first Reform Act (Text-books, the works of Stubbs, Hallam, and May); (b) Constitutional History of the U.S. of America, of France, Germany, Switzerland, Hungary, etc. (Text-books, Bancroft, Bryce, Adams and Cunningham, Dareste's or Demombynes' Constitutions). See also Synopsis of Lectures.

IN the LAW OF SCOTLAND the subject will be the Municipal Law, Civil and Criminal. The works of Mr Erskine, Mr G. J. Bell, and Lord Kingsburgh, in the latest editions, are recommended to Candidates.

IN CONVEYANCING the subject of examination will be—Heritable Rights (excluding Entails) and Moveable Rights.

IN FORENSIC MEDICINE the subjects will be—(1) Various Modes of Death; (2) Abortion; (3) Infanticide; (4) Poisoning with Strychnia; (5) Criminal Responsibility of the Insane.

IN POLITICAL ECONOMY Candidates are recommended to read in addition to the books set for the M.A. examination, the Professor's "Principles of Political Economy," Books I.-III.

<sup>1</sup> Examination papers will be set in the other subjects prescribed by the Regulations if required.

IN INTERNATIONAL PRIVATE LAW Candidates will be examined on the subjects dealt with in the Lectures. See Synopsis of Lectures, and in Guthrie's Savigny.

PROCEDURE AND EVIDENCE.—Candidates for a Law Degree may be examined in this subject also, and have the fact recorded on their diplomas. Candidates will be examined on the subjects dealt with in the Lectures. Text-books, see Synopsis of Lectures.

### FEES.

#### I. PRELIMINARY EXAMINATION FOR B.L.

1. For each examination on Standard of M.A. Preliminary Examination, . . . . . £0 10 6
2. For each subject on M.A. Standard the same fee as is payable for the corresponding subject for M.A., viz. 15s., or £1, 1s., as the case may be.

#### II. LAW EXAMINATIONS FOR LL.B. AND B.L.

The fee payable for LL.B. is . . . . . £6 6 0  
or

If the Examination be taken at two or more periods—

For the First, . . . . . £3 3 0

For the Second, . . . . . 3 3 0

The fee payable for B.L. is . . . . . £5 5 0  
or

If the Examination be taken at two or more periods—

For the First, . . . . . £3 3 0

For the Second, . . . . . 2 2 0

Candidates who fail to pass in any of the LL.B. or B.L. subjects pay a fee of 10s. 6d. for reappearance for Examination in each subject in which they have failed.

Candidates for Examination or for Graduation must be Matriculated Students of the Academic year.

Fee for registration as a member of the General Council (if not already registered) £1.

#### DATES OF LAW EXAMINATIONS, AND FOR GIVING IN NAMES AND PAYMENT OF FEES.<sup>1</sup>

Candidates may pay the fees personally or transmit them to T. GILBERT, University, Edinburgh, by *Post Office* or *Postal Orders*,

<sup>1</sup> When names are not entered, nor fees paid, on or before the stated dates, or a Pass obtained where the fee has been previously paid, a late-entry fee of ten shillings must be paid before the Candidate can be admitted to examination. This fee will not be received after Twelve o'clock of the last day but one preceding the Examination for which the Candidate desires to appear, without the express permission of the Dean of his Faculty and the subsequent sanction of the Senatus. A Candidate must enter his name and pay the Fee, or, when the fee has been previously paid, obtain a Pass, for each periodical Examination at which he desires to appear. A Candidate is not held to be entered until his Schedule is lodged, the Fee paid, and a Pass to the Examination obtained.

or by *Bank Drafts*, crossed Union Bank of Scotland (Hunter Square Branch), Edinburgh, but not by cheques on private accounts.

1900.

October 22, Mon. Names to be given in, certificates shown, and fees paid, *on or before* this date.

„ 29, Mon. Scots Law, 9-1; Constitutional Law and History, 2-4.

„ 30, Tu. Civil Law, 9-1; Constitutional Law and History, 2-4.

„ 31, Wed. Conveyancing, 9-1; Forensic Medicine, 2-4.

Nov. 1, Th. General Jurisprudence, 9-11; Public International Law, 11.30-1.30; Political Economy, 2-4.

„ 2, Fri. Political Economy, 9-11; International Private Law, 12-2; Procedure and Evidence, 2.30-4.30.

„ 5, Mon. Oral Examinations begin.

1901.

March 4, Mon. Names to be given in, certificates shown, and fees paid, *on or before* this date.

„ 18, Mon. Scots Law, 9-1; Constitutional Law and History, 2-4.

„ 19, Tu. Civil Law, 9-1; Constitutional Law and History, 2-4.

„ 20, Wed. Conveyancing, 9-1; Forensic Medicine, 2-4.

„ 21, Th. General Jurisprudence, 9-11; Public International Law, 11.30-1.30; Political Economy, 5-7.

„ 22, Fri. Political Economy, 5-7; International Private Law, 9-11; Procedure and Evidence, 12-2.

„ 25, Mon. Oral Examinations begin.

#### GRADUATION CEREMONIALS.

April	13, Sat.	} Names to be entered at least ten days previously.
July	27, Sat.	

## Graduates in Law.<sup>1</sup>

DEGREE OF LL.B., 1889-1900.

1889.

David Anderson, M.A.

Claud Patrick Boswell, M.A.

Archibald Brown Campbell, M.A.

\* Andrew Henderson Briggs Constable, M.A.

\* Alistair Davidson, M.A.

\* Matthew Robin Greenlees, M.A.

James Arthur Hope, M.A.

\* William Hunter, M.A.

\* Robert Bird Kerr, M.A.

Francis Kinloch, B.A.

\* George Fleming Mathers, M.A.

\* John Hepburn Millar, M.A.

\* Charles David Murray, M.A.

\* Coventry Dick Peddie, M.A.

John Ritchie, M.A.

\* Hamish Hay Stuart, M.A.

Arthur Moodie Thomas, M.A.

\* Alexander Thomson, M.A.

<sup>1</sup> The names of all the Graduates in Law from the institution of the Degrees to 1888 will be found in the List of Graduates of the University, published in 1889, pp. 125-127. See also previous CALENDARS.

\* Passed with distinction.

## 1890.

- \*Duncan Mearns Abel, M.A.
- \*James Robertson Christie, M.A.,  
LL.B. (Glasg.).
- \*William Scott Currie, M.A.
- Edmund John Gunn, M.A.
- Neil James Kennedy, B.A.
- William James Kippen, B.A.
- Lawrence M'Laren, M.A.
- John Liddell Officer, M.A.
- Alexander David Russell, M.A.
- \*William Thomson, M.A.

## 1891.

- Andrew Brown, M.A.
- Charles Walker Bruce, M.A.
- Robt. Jeffrey Cunningham, M.A.
- James Wright Forbes, M.A.
- Henry William Gibson, M.A.
- Alexander Gray, M.A.
- William Gray, M.A.
- \*James Mercer Irvine, M.A., B.Sc.
- \*Erskine Dawson Jamieson, M.A.
- \*Thomas Johnston, M.A.
- Robt. Carmichael Malcolm, M.A.
- \*Thomas Brash Morison, M.A.
- C. Morrison, M.A.
- \*Andrew Fleming Smith, M.A.
- James Robert Earl Monteith  
Smith, M.A.
- Michael Smith, M.A.
- \*Robert Macaulay Smith, M.A.
- Frederick Mills Spankie, M.A.
- Alex. Arthur Granger-Stewart,  
M.A.
- \*Robert Moir Williamson, M.A.
- John Buchanan Young, M.A.

## 1892.

- James Barty, M.A.
- William Brown, M.A.
- \*John Sproat Taylor Cameron,  
M.A.
- \*William Chree, M.A.
- John Marr Davidson, M.A.
- \*James Grant, M.A.

Augustus Wallace M'Gregor,  
M.A.

Thomas John Millar, M.A.  
Alexander John Raeburn, M.A.

## 1893.

- George Haskell Boyd, M.A.
- Thomas Sanderson Hepburn  
Burns, M.A.
- \*William Findlay, M.A.
- Louis Carr Hallard, M.A.
- \*William Ingram, M.A., D.Sc.
- \*Robert Munro, M.A.
- William Dormond Munro, M.A.
- \*Alexander Blairford Smith, M.A.
- Thomas Callander Wade, M.A.
- John Peregrine Robertson White,  
M.A.

## 1894.

- \*Alexander Brown, M.A.
  - Robert Smith Craig, M.A.
  - William Graham, M.A.
  - Ian MacIntyre, M.A.
  - \*James M'Robie, M.A.
  - David Maxwell, M.A.
  - George Morton, M.A.
  - John Purves Smith, M.A.
  - Frederick James Thomson, M.A.
  - \*John Aitken Welsh, M.A.
- 1895.
- \*Francis Molison Anderson, M.A.
  - \*James Ballantyne, M.A.
  - John Erskine Dods, M.A.
  - Alexander James Louttit Laing,  
M.A.
  - \*Charles Lippe, M.A.
  - Alexander M'Callum, M.A.
  - William Dunbar MacDougall,  
M.A.
  - William George Manson, M.A.
  - \*John Arthur Thomas Robertson,  
M.A.
  - Walter James Robertson, M.A.
  - James Rose, M.A.
  - \*James Miller Thomson, M.A.
  - David Milne Watson, M.A.



1896.

- \*James Adamson, M.A.
- Arthur James Alison, M.A.
- William Blair, M.A.
- \*John Aitken Christie, M.A.
- James Dunlop, M.A.
- \*Hugh Archibald Hamilton, M.A.
- Robert Macfie, M.A.
- Robert Dundonald Melville, M.A.
- James Duncan Millar, M.A.
- William Mitchell, M.A.

1897.

- \*Alexander Boyd Barty, M.A.
- \*John Cowan, M.A.
- \*Thomas Crow Darling, M.A.
- Maxwell Fleming, M.A.
- Robert Candlish Henderson, M.A.
- \*David Nasmyth Clarke Hogg, M.A.
- Robert Macgregor Mitchell, M.A.
- John Alexander Robson, M.A.
- George Crurie Steuart, M.A.

1898.

- Bijay Kisor Acharyya, B.A.
- \*William Burt, M.A.
- \*Robert Gray, M.A.
- Thomas Hart, M.A.

1889.

- \*Robert Liddell Cockburn.
- John Glover.
- William Stowell Haldane.
- John Lumsden Macpherson, M.A.
- John James Waugh.

1890.

- Duncan Cameron.
- Duncan Archibald Maccoll.
- Robert Watson.

1891.

- John Scrymgeour Hepburn.
- John Nisbet.

- \*John Alexander Inglis, B.A.
- Henry Lillie, M.A.
- Malcolm Nicolson MacInnes, M.A.
- John Mackintosh, M.A.
- Dugald Maclean, M.A.
- John James Maclean, M.A.
- William Ogilvy, M.A.
- \*Subharama Swaminadhan, M.A.

1899.

- \*William Keith Aikman, M.A.
- \*James Bell Ballingall, M.A.
- \*David Connel, M.A.
- \*Edward Francis Gibson, M.A.
- George Hart, M.A.
- Charles Angus Macpherson, M.A.
- \*David Anderson Miln, M.A.
- \*David Robertson, M.A.

14th April 1900.

- \*William Darling, M.A.
- \*John Hossell Henderson, M.A.
- James Mitchell, M.A.
- William Harper Sellar, M.A.
- John Smart, M.A.
- Alexander Steedman, M.A.
- \*Alfred Patrick MacThomas
- Thoms, M.A.

# DEGREE OF B.L.

- William Alexander Stewart.
- Thomas Trotter.

1893.

- John Romanes.
- Thomas Edward Taylor, M.A.

1894.

- \*Alexander Douglas Donald.
- Buckham William Liddell.

1895.

- Geo. Ernest Rawson Coldstream.
- William Alexander Cullen.

1896.

- James Dan Easson.
- \*Alexander Speeden Riach.

\* Passed with Distinction.

David Ritchie.  
 \*William Gowan Dobie Simpson.  
     1897.  
 Alexander Ernest Philip Gardner.  
     1898.  
 James Kidd.  
 John William Dods Kirkland.

Alexander Malcolm MacEwen.  
 And. Macgregor Meldrum, M.A.  
 William David Mitchell.  
     1899.  
 Robert Letalle Proudfoot.  
 \*James Scrimgeour.  
 John Swan Mercer.

### DEGREE OF DOCTOR OF LAWS (LL.D.).†

The Degree of Doctor of Laws is conferred *honoris causâ tantum*. It was first granted in 1695. Previously to 1751 it had been conferred on seven persons only. Since then more than 400 names, including some of the most distinguished in Europe, have been added to the list. The degree is not conferred in absence except in very special cases.

The following is a list of those upon whom the Degree of Doctor of Laws has been conferred 1889-1900 :—‡

1889.  
<sup>1</sup> Sir Syed Ahmed Khan, Bahadûr,  
     K.C.S.I.  
     J. E. T. Aitchison, C.I.E., M.D.,  
     F.R.S., &c.  
<sup>12</sup> James D. Dana.  
<sup>1</sup> Francis Day, C.I.E., &c.  
<sup>1</sup> Hon. David Dudley Field.  
<sup>12</sup> C. Gegenbaur.  
<sup>12</sup> E. Haeckel.  
<sup>1</sup> Rudolf von Jhering, Dr. Jur.  
<sup>12</sup> E. E. Kummer.  
     William Mackintosh, M.A., Q.C.  
<sup>12</sup> Konrad Maurer.  
     Maurice Paterson, B.A.  
     Richard Quain, M.D., F.R.S.,  
     &c.  
<sup>1</sup> Rudolf von Roth, Ph.D.  
<sup>12</sup> Barthélemy St. Hilaire.  
<sup>12</sup> Jules Simon.

Whitley Stokes, C.S.I., C.I.E.,  
     D.C.L., &c.  
<sup>12</sup> Geheimrath Heinrich von Sybel.  
     James Ward, M.A., D.Sc.  
<sup>1</sup> William Dwight Whitney.  
<sup>12</sup> B. Windscheid.  
     1890.  
     Sir Benjamin Baker, C.E.  
     Pierre Paul Leroy-Beaulieu.  
     Right Hon. Henry Chaplin, M.P.  
     Sir Dyce Duckworth, M.D.  
     Sir John Fowler, Bart., C.E.  
<sup>1</sup> James Anthony Froude, M.A.,  
     LL.D.  
     Joseph H. Gilbert, M.A., Ph.D.,  
     LL.D., F.R.S.  
     William W. Goodwin, D.C.L.  
     James Hardy.  
     Sir John Kirk, M.D., G.C.M.G.  
     General Robert MacLagan, R.E.

\* Passed with Distinction.

† Those to whom the Degree has been offered, if unable to be present at the Graduation Ceremonial immediately ensuing, may present themselves at any subsequent Ceremonial, on giving at least a week's notice.

‡ The names of those who received the Degree prior to 1859 will be found in the "Catalogue of the Graduates in the Faculties of Arts, Divinity, and Law of the University of Edinburgh since its foundation," published in 1858, and of those who received the Degree from 1859 to 1888, both years included, in the List of Graduates published in 1889, and in previous CALENDARS.

<sup>1</sup> Conferred *in absentia*.

<sup>2</sup> Tercentenary Graduates unable to be present in 1884.

John Marshall, M.A.

Right Hon. J. P. B. Robertson,  
M.P.

Frederic Seeböhm, F.S.A.

Emeritus-Professor C. Piazza  
Smyth, F.R.A.S., &c.

H. M. Stanley.

Spencer Walpole.

1891.

Alexander Asher, Q.C., M.P.,  
&c.

John Beddoe, M.D., F.R.S., &c.,  
&c.

Major C. R. Conder, R.E.,  
D.C.L.

Felix Dahn.

Alexander Campbell Fraser,  
D.C.L., LL.D.

Cunningham Geikie, D.D.

George Joachim Goschen, M.P.

Sir George Murray Humphry,  
M.D., F.R.S.

Colonel Sir Colin Campbell Scott  
Moncrieff, K.C.M.G., C.S.I.

Professor Simon Newcomb.

Sir Herbert Stanley Oakeley,  
M.A., Mus. Doc., LL.D.,  
D.C.L.

John Johnstone Rogerson, B.A.,  
LL.B.

1892.

Surgeon-General James Macnabb  
Cunningham, M.D., &c.

<sup>1</sup> Rev. C. V. A. Van Dyck, M.D.,  
D.D.

Robert M. Ferguson, Ph.D.,  
F.R.S.E.

Rt. Hon. Sir Edward Fry.

<sup>1</sup> Theodore Nöldeke.

Dr Jakob Schipper.

Hon. Sir Charles Tupper, Bart.,  
G.C.M.G., C.B., M.D.

<sup>1</sup> Rev. Thomas Walker, M.A.

Robert Boog Watson, B.A.,  
F.R.S.E.

1893.

Geheimrath Professor Dr Arthur  
Auwers.

Sir I. Lowthian Bell, Bart.,  
F.R.S.

John Sutherland Black, M.A.

Sir George Buchanan, M.D.,  
F.R.S.

Rt. Hon. Sir Stuart Knill, Bart.

Henry Duncan Littlejohn, M.D.,  
F.R.C.S. Edin.

Alfred Marshall, M.A.

John Rhys, M.A.

His Excellency General the Right  
Hon. Lord Roberts, of Can-  
dahar, G.C.B., G.C.I.E.,  
V.C., R.A. (B.).

Lieut.-Colonel Justin C. Ross,  
C.M.G.

Rev. Walter C. Smith, D.D.

Alexander Moody Stuart.

Ramsay Heatley Traquair, M.D.,  
F.R.S.

1894.

John Taylor Brown.

W. H. Gaskell, M.D., F.R.S.

Henry Goudy, M.A., LL.B.

Professor Franz Kielhorn, Ph.D.

Professor Diodato Liroy.

Charles B. Logan, W.S.

David Patrick, M.A., B.D.

Rt. Hon. Sir Charles John Pear-  
son, M.A., Q.C., M.P.

James Alexander Russell, M.A.,  
B.Sc., M.B., C.M.

George Wilson, M.A., M.D.

1895.

Rev. William Cunningham, M.A.,  
D.Sc., D.D.

Hon. Lord M. T. Stormonth  
Darling, M.A.

Thos. Edmonson Charles, M.D.

Joseph Remi-Leopold Delbœuf,  
Ph.D., D.Litt., D.Sc.

S. Weir Mitchell, M.D.

<sup>1</sup> Conferred *in absentia*.

- Professor W. M. Flinders Petrie,  
M.A., D.C.L.  
1896.
- Sir Dietrich Brandis, Ph.D.,  
K.C.I.E., F.R.S.
- P. Hume Brown, M.A.  
Giosuè Carducci.
- Sir Charles A. Elliott, K.C.S.I.  
Emeritus-Prof. David Masson,  
LL.D.
- Sir J. Russell Reynolds, Bart.,  
M.D., &c.
- Douglas Argyll Robertson, M.D.
- John Alexander Stewart, M.A.
- David Duncan, M.A., D.Sc.
- Professor Francis A. Walker,  
LL.D.
- 1897.
- Professor James Dewar, M.A.,  
F.R.S.
- James Gairdner.
- William M'Ewan.
- Emeritus-Professor Sir Douglas  
Maclagan, M.D., &c.
- John Rae, M.A.
- The Rt. Hon. Lord Russell.
- John Turnbull Smith.
- John Wyllie, M.D.
- 1898.
- Henry Pickering Bowditch,  
M.D.
- Sir William Broadbent, Bart.,  
M.D., F.R.S.
- Horace T. Brown.
- Thomas Lauder Brunton, M.D.,  
D.Sc., F.R.S.
- John B. Bury, M.A.
- J. Victor Carus.
- William J. Courthope, C.B.,  
M.A., D.Litt.
- David Ferrier, M.D., LL.D.,  
F.R.S.
- Joseph Forster, M.D.
- M. le Comte de Franqueville.
- Carl Gerhardt, M.D.
- Richard Burdon Haldane, Q.C.,  
M.P.
- Jonathan Hutchinson, M.D.,  
LL.D., F.R.S.
- Lord Kitchener of Khartoum.
- Theodor Kocher, M.D.
- Thomas G. Law.
- John W. M'Crimble, M.A.
- August Martin, M.D.
- Johann Miculicz, M.D.
- Ottavio Morisani, M.D.
- William Osler, M.D., LL.D.
- Hon. Sir Walter Phillimore,  
Bart., D.C.L.
- William Playfair, M.D., LL.D.
- D. G. Ritchie, M.A.
- Thomas George Roddick, M.D.
- Siegmund Rosenstein, M.D.
- Herman Snellen, M.D.
- Sir Richard Thorne Thorne,  
K.C.B., F.R.S.
- 1899.
- Lord Balfour of Burleigh.
- William Mitchell Banks, M.D.,  
F.R.C.S.
- Andrew C. Bradley, M.A.
- Archibald H. Charteris, D.D.
- Marquess of Dufferin and Ava,  
K.C.B., G.C.B., G.C.M.G.,  
G.C.S.I., G.C.I.E., D.C.L.
- <sup>1</sup> Caleb Frank Gates, D.D.
- David F. Lowe, M.A.
- George Walter Prothero, M.A.,  
D.Litt.
- Andrew G. Wauchope, C.B.,  
C.M.G.
- Viscount Wolseley, K.C.B.,  
G.C.B., G.C.M.G., K.C.M.G.,  
D.C.L.

29th July 1899.

Sir William Anson, Bart., M.P., D.C.L., Warden of All Souls  
College, Oxford, late Vice-Chancellor of the University of Oxford.

<sup>1</sup> Conferred *in absentia*.

<sup>1</sup> Khan Bahadur Shams-ul-Ulama Moulavee Saiyid Muhammad Zia-ood-Deen Khan, Raees of Delhi.

14th April 1900.

Horatio Robert Forbes Brown, J.P., Editor of the Calendars of State Papers (Venetian) for the Public Record Office.

His Excellency the Hon. Joseph Hodges Choate, American Ambassador.

Miss Eleanor A. Ormerod, F.R. Met. Soc., F.E.S.

Charles D. F. Phillips, M.D.

The Rev. Thomas Smith, D.D.

William Ritchie Sorley, M.A., Professor of Moral Philosophy, University of Aberdeen.

<sup>1</sup> Thomas Anderson Stuart, M.D., Professor of Physiology, University of Sydney.

## Bursaries, Scholarships and Prizes, &c., in the Faculty of Law.

### I.—BURSARIES.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patron.
I.	1873	The Grierson Trustees.	£80 0 0	3	1	About £26 13 4	Senatus.
II.	1873	Geo. Cairns, Solicitor.	19 0 0	1	1	About 19 0 0	Senatus.
III.	1878	Dr Andrew Thomson.	100 0 0	4	4	25 0 0	Trus. of Dr Thomson.

I. There are three Grierson Bursaries, each of the value of £26, 13s. 4d. annually. Deserving students from the parishes of Crawford or Leadhills, applying to the Clerk of Senatus on or before the 1st day of September, are entitled to preference, if they satisfy certain conditions;<sup>2</sup> and if the applicant is commencing his first Winter Session of the Law Curriculum he will be entitled to hold the Bursary for three years, provided "he prosecutes his studies with proper diligence."<sup>2</sup> The subjects of examination are Elementary Latin, English, and Arithmetic. See Outline of Subjects, pages 105 and 106, and Time-Table of Examinations, page 122.

Failing preferential candidates, the Bursaries will be tenable for one year only, and will be awarded to candidates who have attended one

<sup>1</sup> Conferred in *absentia*.

<sup>2</sup> See CALENDAR 1877-78, p. 370. By "proper diligence" is understood regular attendance on Classes, and reasonable proficiency in Class Examinations.

year in the Faculty of Arts in some University. 1. In the case of those commencing their first Winter Session in Law, the award will be to the candidate who has passed highest in Latin and Moral Philosophy at the Arts Graduation examination in October. 2. In the case of candidates commencing their second Winter Session—to the most distinguished law-student of that standing, who, if not a Graduate in Arts, has passed satisfactorily in Latin and Moral Philosophy at the Arts Examination, either in October or earlier. 3. In the case of candidates commencing the third Winter Session of the Law Curriculum—to the most distinguished law-student of that standing who has passed satisfactorily in Latin, Moral Philosophy, and Logic at the Arts Examination in October or earlier. See Regulations, CALENDAR 1877-78, p. 370. *Bursars* 1899—First year, *A. Cormack*. Second year, *D. M. Burden*. Third year, *W. T. Watson* and *T. Pattison* (subsequently resigned)—equal.

II. The competition for the Cairns Bursary, which is tenable for one year only, and is not subject to any preferences, is subject to the same conditions as those for the second year Grierson Bursary. This Bursary is open to Students who have completed one year in the Law Faculty. *Bursar*—1899, *T. A. Menzies*.

III. Candidates must be Matriculated Students commencing their First Winter Session, and must intimate their intention to compete to Messrs Traquair, Dickson & Maclaren, W.S., 11 Hill Street, Edinburgh, and also to the Clerk of the Senatus on or before 15th September. Candidates of the name of Thomson or Traquair, or natives of the town or county of Dumfries or the city of Edinburgh, are preferred. The Examination is in Latin and Moral Philosophy, and is the same as the October Examinations in those subjects for M.A. See CALENDAR 1879-80, p. 345. *Bursar*—1899, *William Robertson*.

Bursaries in the Faculty of Arts, the holders of which may study in the Faculty of Law (see also under Faculty of Arts):—

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patron.
I.	1809	Dr Donald Grant, London.	£180 0 0	4	4	£45 0 0	Dr Grant's Trustees.
II.	1846	John Jamieson, Edinburgh.	About 26 0 0	1	4	26 0 0	Principal and Two Professors.
III.	1871	The Sibbald Bursaries.	150 0 0	5	3	30 0 0	Trustees of Dr J. R. Sibbald.
IV.	1883	Wm. Renton, Edinburgh.	19 19 6	1	1	19 19 6	Professors of Mathematics, Natural Philosophy, Chemistry, and Political Economy.
V.	1886	R. Allan, Feuar, Kelso.	About 90 0 0	3	3	About 30 0 0	Trustees of R. Allan.
VI.	1889	Daniel MacLaurin, London.	62 10 0	1	4	62 10 0	Town Council.



## II.—SCHOLARSHIPS.

### VANS DUNLOP SCHOLARSHIPS.

Four Vans Dunlop Scholarships, each of about £100 per annum, tenable for three years, are more or less directly connected with the Faculty of Law:—

Candidates are required to matriculate for the year in which the competition takes place, and must produce evidence that they are eligible.

I. *Vans Dunlop Scholarship in Commercial and Political Economy and Mercantile Law*, for which both Law and Arts Students are eligible. For Regulations, see under Scholarships in Faculty of Arts.

Next vacancy in October 1901.

II. *Vans Dunlop Scholarship in the Law of Nature and Nations, Civil Law, and Constitutional Law and History.* The Regulations for competition are as follows:—

(a) The Competition is open to all Candidates who, within the three years immediately preceding the date of competition, shall have graduated in Law in this University, or shall have passed the Graduation Examination in the three subjects of examination for the Scholarship: provided they have written papers of the LL.B. standard at the Graduation Examination, and have obtained an average of not less than 75 per cent. of marks in these subjects.

(b) The Competition is by written Essays on branches of law to be announced at least one year before the date of competition. The precise subject of each of the essays will be set on the conclusion of the Graduation Examination in October 1901.

(c) The Examiners are the Professors of the prescribed subjects, assisted by the additional Law Examiners.

Next vacancy in October 1901.

1898. *J. A. Christie, LL.B.*

### III. *Vans Dunlop Scholarship in Scots Law and Conveyancing.*

(a) The Competition is open to all Candidates who, within the three years immediately preceding the date of competition, have graduated in Law in this University, or have passed the Graduation Examination in Scots Law, Conveyancing, and Forensic Medicine: provided they have obtained at the Graduation Examination an average of not less than 75 per cent. of marks in these three subjects.

(b) The Competition is by written Essays on (1) the Civil Law of Scotland, (2) the Criminal Law of Scotland, and (3) Conveyancing, the particular branches of which will be announced at least one year before the competition. The precise subject of each essay will be set on the conclusion of the Graduation Examination in October.

(c) The Examiners are the Professors of the prescribed subjects, assisted by the additional Law Examiners.

Next vacancy in October 1900.

1897. *William Mitchell.*

#### CONDITIONS OF TENURE.

Each holder of No. II. and No. III. of these Scholarships will be required to deliver, to the satisfaction of the Faculty of Law, two courses of three lectures each on one of the subjects of examination for the Scholarship, viz., one course in the second, and the other in the third year of his tenure.

IV. *Vans Dunlop Scholarship in History.* For Regulations, see under Scholarships in Faculty of Arts. Next vacancy in October 1901.

#### V. *The Lorimer Travelling Scholarship.*<sup>1</sup>

The Lorimer Travelling Scholarship, of the annual value of about £40, tenable for two years, for the encouragement of the study of the "Law of Nature and Nations" in foreign Law Schools by Students and Graduates in the Faculty of Law, was founded by the Lorimer Memorial Committee and the Association for the better Endowment of the University. The Scholarship is open to Candidates who, during the two years immediately preceding that in which a scholar falls to be appointed, have completed the examinations for a Degree in Law in the University in the following subjects, namely—(1) The "Law of Nature and Nations" (including therein the Philosophy of Law); (2) The Civil Law; and (3) Either (a) Constitutional Law and History, or (b) Political Economy. The foreign Law School or Schools which the Scholar proposes to attend must be previously approved by the Faculty of Law. The Candidate who, in the opinion of the Faculty of Law, passes with most distinction in the examinations for Graduation in Law, in the subjects above set forth, during the two years immediately preceding the election, and who is willing to fulfil the conditions imposed by the Deed of Foundation, will be eligible, consideration being always given to his proficiency in the first of the above-named subjects, and to his knowledge of the modern language or languages spoken in the Law School or Schools where he proposes to study. For Deed of Foundation, see CALENDAR for 1892-93, p. 538. Next Vacancy in July 1900.

1898. *Subharama Swaminadhan, M.A., LL.B.*

VI. *Gray Scholarship for Research.*—See under Faculty of Arts.

#### VII. *Thow Scholarships.*

These Scholarships, three in number, of the annual value of about £25 each, were founded by the Trustees of the late Miss Christiana Thow of Craigmore, West Ferry, near Dundee, according to the

<sup>1</sup> These Regulations may be altered before the date of next competition.

desire of Miss Christiana Thow and her Sister, Miss Margaret Thow, and out of respect to the memory of their Brothers.

The following are the Rules and Regulations applicable to the said Scholarships :—(1) The Scholarships shall be distributed annually, one to the most distinguished student for the Winter Session in the Class of Scots Law at the University of Edinburgh; another to the most distinguished for the Winter Session in the Class of Conveyancing at the said University; and the third to the most distinguished student for the Winter Session in any two of the following Classes at the said University, viz.:—Public Law, Civil Law, and Constitutional Law and History. (2) Each of the Scholarships shall be tenable only for one year by the student in the subject for which it has been bestowed upon him, but the same student may competently obtain one of the Scholarships set apart for the other subjects in a succeeding session, provided he has the necessary qualification. (3) No Student can hold two of these Scholarships for the same year, although he may have satisfied the conditions in other respects. In the event of any Student being first as regards two of the Scholarships, the Faculty of Law shall determine which Scholarship shall be awarded to him, and which shall be taken by the most distinguished student. (4) There shall be no restriction as to holding one of these Scholarships along with another Scholarship or Bursary from another source.

1900. *James Ireland* (Scots Law).

*John M. Vallance* (Conveyancing).

*W. A. Fleming* (Pub. and Constl. Law).

### III.—FUNDS FOR SPECIAL STUDY OR RESEARCH.

1. *The William Dickson Travelling Fund.* See under Faculty of Arts.

2. *The Earl of Moray Bequest for the Promotion of Original Research.* See under Faculty of Arts.

### IV.—PRIZES.

1. The *Forensic Prize*, of the value of £10, founded in 1858 by the Forensic Society with the view of encouraging the study of Roman Law, is awarded annually either in July or in October, for the best Essay upon a subject prescribed by the Professor of Civil Law, or, as the result of a Special Examination, as may be found convenient. The subject of the Essay, or the date of the Examination, as the case may be, is announced by the Professor early in the session. It can be competed for only by Students of the Civil Law Class during the preceding year.

1899. *T. A. Menzies, M.A.*

2. The *Muirhead Prize*, of about £15, 12s. 6d. annually, is awarded to the Student who gains the first place in the Class of Civil Law, as

determined by the results of the periodical examinations during both the Winter and Summer Sessions.

1899. *John Pattison, M.A.*

SCHOLARSHIPS, BURSARIES AND PRIZES, &c.,  
OPEN IN 1900-1901.

I.—SCHOLARSHIPS.

Where the competition is open to Graduates, their standing will be computed from the date of the Graduation Ceremonial immediately following the completion of their Law Examinations.

1. No. III. of the above Scholarships (see page 325) will be offered for competition after the conclusion of the Graduation Examinations in October 1900. The subjects of the Essays to be set for this Scholarship will be taken from the following branches of Law:—(1) The Law of Succession and Trust; The History of Criminal Procedure. (2) The Law of Heritable Securities; The Law of Entails. Names of Candidates must be entered before 23rd October.

2. No. I. will be offered for competition after the conclusion of the Graduation Examination in October 1901.

The following books are recommended:—Adam Smith's *Wealth of Nations*, Book V.; Seeborn's *English Village Community*, Chaps. I.-V.; Gomme's *Village Community*; Vinogradoff's *Villeinage in England*; Cunningham's *Growth of English Industry and Commerce*, Vol. I.; Sidgwick's *Principles of Political Economy*, Book III.; Marshall's *Principles of Economics*, Vol. I.; Nicholson's *Principles of Political Economy*; Bastable's *Public Finance*; Pantaleoni's *Pure Economics*; Keynes' *Scope and Method of Political Economy*; Sidgwick's *Elements of Politics*, Chs. I.-XII.

3. No. II. will be offered for competition after the conclusion of the Graduation Examination in October 1901.

The subjects of the Essays to be set will be taken from the following branches of Law:—

- (1) The Laws of War.
- (2) The Consensual Contracts.
- (3) Cabinet Government.

4. No. IV. will be offered for competition after the conclusion of the Graduation Examination in October 1901.

The Subjects of Examination are—

- (1) History of Great Britain to 1885.
- (2) Constitutional History of (a) England, 1307-1536; (b) United States, 1763-1789; (c) France, 1830-1884.
- (3) History of Scotland, 1603-1707, with special reference to the Union of 1707.

5. *The Gray Scholarship*, of the annual value of about £89, and tenable for two years, will be awarded in December 1901. The competition will

be open to all who have completed the examinations for the Degree of LL.B. within the three years immediately preceding the date of the examination. The subjects of examination are : (1) General Jurisprudence, (2) the History of Roman Law, (3) (a) the Constitutional History of England generally, and (b) the Constitutional History of America from 1750-1787. Books recommended : (1) General Jurisprudence — Austin's *Lectures* ; Pollock's *First Book of Jurisprudence* ; Holland's *Elements of Jurisprudence* ; Markby's *Elements of Law* ; Jenks's *Law and Politics in the Middle Ages* ; Maine's *Works* ; Clark's *Practical Jurisprudence* ; Dicey's *Law of the Constitution* ; (2) Constitutional History (a) England, (b) America (see books named in Synopsis of the Professor's Lectures) ; (3) History of Roman Law. Questions may be set in Constitutional as well as in Legal History. Gaius' *Institutes* and other original sources should be studied, and the works on the subject by Mommsen, Maine, Muirhead, Ihering and Cuq may be consulted. The examinations will take place as follows :—General Jurisprudence, 2nd December, 9 A.M. to 1 P.M. ; History of Roman Law, 3rd December, 9 A.M. to 1 P.M. Constitutional History, 4th December, 9 A.M. to 1 P.M. Names of Candidates to be entered on or before 18th November. The holder of the Scholarship is required, as a condition of tenure, to satisfy the Senatus Academicus that he is pursuing special higher studies, or that he is engaged in original research, either in the University of Edinburgh or in another University approved by the University Court, and he must also satisfy the Senatus Academicus of the importance of the work he proposes to undertake, and of his qualifications for such work.

6. No. V. will be open in July 1900. Names of Candidates to be entered before 1st July.

7. *Three Thow Scholarships*. See page 326.

## II.—FUNDS FOR SPECIAL STUDY OR RESEARCH.

1. *The Earl of Moray Bequest*. See page 187.

2. *The William Dickson Travelling Fund*. See page 187.

## III.—BURSARIES.

The examination for first-year Bursaries is in Latin and Moral Philosophy, and is the same as the October Examinations in these subjects for the Degree of M.A. Candidates are required to enter their names at the *Matriculation Office* on or before 1st October. Candidates for the second and third year Grierson Bursaries must apply on or before 18th October, and must state what distinctions they have attained in the Law Classes of the previous year.

1, 2, 3. *Three Grierson Bursaries*, No. I., page 323.

4. *The Cairns Bursary*, No. II., page 323.

5. *The Sibbald Bursaries*, Nos. 12, 13, page 196.

6. *A Thomson Bursary*, No. III., page 323.

7. *Renton Bursary*, No. 31, page 197.

## IV.—PRIZES.

4. The *Forensic Prize*. See page 327.
  5. The *Muirhead Prize*. See page 327.
  6. The *Lord Rector's Prize*, No. 1, page 191.
  - 7, 8, 9. The *Gray Prize Essays*, Nos. 14-16, page 192.
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The attention of all Bursars in the Faculty of Law is particularly called to the following Regulation:—

“Bursars connected with the Faculty of Law must annually attend and perform the work of at least one Class in the Faculty.

“Each Bursar must present a Certificate, signed by the Dean, attesting his regular attendance, &c., on each occasion on which he applies to the Factor for a payment.”

Certificates, in terms of this regulation, will be given to Bursars by the *Dean of the Faculty of Law* after the 15th November; also at the end of the Session in March. In applying to the Dean for the Certificate in November, Bursars must present to him their Class Cards for the Session, as evidence that they have enrolled in their classes; and at the end of the Session they must present to him certificates from the Professors to the effect that they have attended with regularity and have performed the work of the Classes. Payments are made by the Factor for the University, Mr Henry Cook, W.S., 61 North Castle Street, Edinburgh, on and after 15th November for the Martinmas payments, and on and after 18th May for the Whitsunday payments,—between 10 and 3 o'clock.

N.B.—*Bursars and Scholars who desire to resign should at once announce this to the Factor. They must apply to the Factor for the instalments due to them within three months after they have become payable, otherwise they will be regarded as having resigned.*

L. J. GRANT, BART., B.A.,  
*Dean of the Faculty of Law.*



# Faculty of Medicine.

Dean—PROFESSOR THOMAS R. FRASER, M.D., LL.D., F.R.S.

—o—

## Programme of Classes.

### WINTER SESSION, 1900-1901.

*Students who do not intend to graduate in Medicine in this University may attend any of the Classes in the Faculty on payment of the Matriculation and Class Fees. Those who intend to graduate must pass the Preliminary Examination before attendance on any Class will qualify for Graduation. Women are now admitted to Graduation.*

*The Classes in the Faculty will be opened on Tuesday, 16th October, and will meet daily (Saturdays excepted), unless otherwise stated.*

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees. <sup>1</sup>
Surgery .....	16 Oct., 9 o'cl.	Prof. Chiene.....	£4 4
Materia Medica.....	16 Oct., 10 ,,	Prof. Fraser.....	{ 4 4
Pract. Mat. Medica, } includ. Pharmacy }	17 Oct., 2 ,,		{ 3 3
Physiology .....	16 Oct., 2 ,,	Prof. Schäfer.....	4 4
Pract. Physiology:—			
Experimental.....	17 Oct., 10-12 ,,	Prof. Schäfer, Dr Milroy and Assistants....	{ 2 2
Chemical .....	17 Oct., 9-10 ,,		{ 1 1
Adv. Pract. Physiol. (Experi. & Chem.) <sup>5</sup>			{ 3 3
Chemistry .....	16 Oct., 10 ,,	Prof. Crum Brown	{ 4 4
Chemistry—Advanced Course .....	8 Jan., 4 ,,		{ 2 2
Practical Chemistry {	26 Nov., 11 and 2 o'cl. }		{ 3 3
Midwifery & Diseases of Women & Childr.	16 Oct., 10 o'cl.	Prof. Simpson....	4 4
Advanced Botany.....	16 Oct., 11 ,,	Prof. B. Balfour..	{ 2 2 <sup>2</sup>
Prac. Bot. (Advanced)	16 Oct., 11 ,,		{ 3 3 <sup>2</sup>
Pathology .....	16 Oct., 11 ,,	Prof. Greenfield }	4 4
Practical Pathology...	17 Oct., daily }		3 3
Clinical Instruction in the Royal Infirmary <sup>4</sup>	11 daily. . .	{ The Clinical Professors.....	Hospital Ticket. <sup>3</sup>
Clinical Surgery <sup>4</sup> — Royal Infirmary, Mon. & Thurs.	18 Oct., 12 o'cl.	Prof. Annandale	4 4
Clinical Medicine <sup>4</sup> — Royal Infirmary, Tues. & Fri. ... }	16 Oct., 12-2 o'clock }	{ Professors Fraser, Greenfield, and Wyllie; and Simp- son on Diseases of Women..... }	{ 4 4

<sup>1</sup> Fees for second and subsequent attendances, see page 334.

<sup>2</sup> Besides Garden Fee of 5s.

<sup>3</sup> For Fees, see page 335.

<sup>4</sup> Only open to Students holding the Hospital Ticket.

<sup>5</sup> Dates to be arranged.

WINTER SESSION, 1900-1901—*continued.*

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees. <sup>1</sup>
Zoology (Elementary) <sup>2</sup>	16 Oct., 12 o'clock	Prof. Ewart. ...	£4 4
Do. (Elementary Practical) <sup>2</sup> .....	16 Oct.		2 2 <sup>3</sup>
Do. (Advanced) <sup>2</sup> .	16 Oct., 1.30 ,,		3 3 <sup>3</sup>
Anatomy .....	16 Oct., 1 ,,	Prof. Sir William Turner .....	4 4
Practical Anatomy ...	1 Oct., <i>daily</i> }		3 3
Medicine .....	16 Oct., 2 ,,	Prof. Wyllie .....	4 4
Lecturers.			
Cl. Instruc. on Dis. of Children at Rl. Hosp. for Sick Children <sup>5</sup> ... ( <i>Daily</i> )	24 Oct., & 16 Jan., 11 o'clock	T. M. Burn-Mur- doch, M.D., and Staff of the Rl. Hosp. for Sick Children .....	2 2 <sup>4</sup>
Diseases of the Larynx, Ear, and Nose .....	5 Nov., 11 ,,	Peter M'Bride, M.D., C.M....	2 2 <sup>8</sup>
( <i>Mon. &amp; Thurs.</i> )			
Vertebrate Morph- ology (with Labora- tory Work).....	16 Oct., 2 ,,	John Beard, D.Sc. ....	3 3 <sup>3</sup>
Comparative Embry- ology .....	8 Jan., 1 ,,		3 3 <sup>4</sup>
Physics <sup>2</sup> .....	16 Oct., 3 ,,	C. G. Knott, D.Sc.	3 3
Regional Anatomy (Anatomical Demon- strations) .....	17 Oct., 9 ,,	David Hepburn, M.D. ....	2 2 <sup>7</sup>
Diseases of the Eye...		G. A. Berry, M.B.	2 2 <sup>48</sup>
Pathol. Bacteriology	23 Oct.	D. A. Welsh, M.D.	3 3 <sup>4</sup>
Diseases of Tropical Climates.....		Andrew Davidson, M.D. ....	2 2 <sup>4</sup>
Clinical Instruct. on Diseases of the Skin <sup>8,9</sup>	17 Oct., 11 ,, 9 Jan., 11 ,,	W. Allan Jamie- son, M.D. ....	2 2

<sup>1</sup> Fees for second and subsequent attendances, see p. 334.<sup>2</sup> Three Months' Course.<sup>3</sup> Besides charge of 10s. for Laboratory Expenses.<sup>4</sup> Five Shillings University Entrance-Fee for Non-Matriculated Students. See page 29.<sup>5</sup> Two courses, each qualifying. Only open to Students holding the Hospital Ticket. See page 335.<sup>6</sup> This Class meets for two hours twice a week throughout the Winter Session.<sup>7</sup> When taken along with Practical Anatomy, £1, 1s.<sup>8</sup> Only open to Students holding the Hospital Ticket.<sup>9</sup> Twice a week.

# SUMMER SESSION, 1901.

The Classes will be opened as follows, and will meet daily (Saturdays excepted), unless otherwise stated.

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees. <sup>1</sup>
Elementary Botany.....	1 May, 8 o'cl.	Prof. Bayley Balfour.	£4 4 <sup>2</sup>
Practical Botany.....	1 May, 9 „		2 2 <sup>2</sup>
Field Demonstrations on Saturdays.			
Operative Surgery and Surgical Appliances	16 April	Prof. Chiene....	3 3
Forensic Medicine and Public Health.....	1 May, 9 „	Prof. Sir Henry D. Littlejohn Prof. Hunter Stewart.....	4 4
Prac. Materia Medica (incl. Pharmacy)....	1 May, 10 „	Prof. Fraser....	3 3
Practical Pathology....	1 May, 10 „	Prof. Greenfield.	3 3
Obstetrical and Gynecol. Operations— (Tues. & Fri.)	1 May, 10 „	Prof. Simpson.	3 3
Pract. Physiol. (Histol.)	1 May, 9-11 and 2-4	Prof. Schäfer, Dr Milroy and Assistants	2 2 2 2
Advanced Pract. Phys. (Histol.) .....			
Zoology (Elementary)..	1 May, 12 o'cl.	Prof. Ewart.	4 4
Zoology (Elem. Prac.)	1 May. <sup>4</sup>		2 2 <sup>3</sup>
Invertebrate Zoology... Do., with Laboratory Work .....			2 2 <sup>3</sup> 3 3 <sup>3</sup>
Clinical Surgery, <sup>5</sup> Royal Infir. (Mon. & Thur.)	3 May, 12 „	Prof. Annandale.	3 3
Clinical Medicine, <sup>5</sup> Royal Infirmery (Tues. & Fri.) .....	3 May, 12 to 2	Professors Fraser, Greenfield, and Wyllie; and Prof. Simpson on Dis. of Women.	3 3
Clinical Instruction in the Royal Infirmery. <sup>5</sup>	12 daily. . .	The Clinical Professors.	Hospital Ticket. <sup>6</sup>
Physics .....	1 May, 12 „	Prof. Tait. ....	3 3
Chemistry (Organic)....	1 May, 1 „	Prof. Crum	2 2
Do. (Practical) ..	1 May, 2 „	Brown.	3 3
Anthropology— (Tues., Wed., Th.)	8 May, 1 „	Prof. Sir W. Turner.	2 2 <sup>7</sup>

<sup>1</sup> Fees for second and subsequent attendances, see page 334.

<sup>2</sup> Besides Garden Fee of 5s.

<sup>3</sup> Besides charge of 10s. for Laboratory Expenses.

<sup>4</sup> At hours to be arranged.

<sup>5</sup> Only open to Students holding the Hospital Ticket.

<sup>6</sup> See Fees, page 335.

<sup>7</sup> When taken with Practical Anatomy, £1, 1s.

## SUMMER SESSION, 1901—continued.

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees. <sup>1</sup>
Practical Anatomy.....	1 May, <i>daily</i> .	{ Prof. Sir W. Turner and Demonstrators.	{ £ 5. 2 2
		Lecturers.	
Diseases of the Eye <sup>8</sup> ...	{ 7 May, 9 o'cl. 8 May, 10 „	{ Geo. A. Berry, M.B.....	{ 2 2 <sup>2</sup> 3
Cl. Instruct. on Dis. of Children, at Rl. Hosp. for Sick Children....	{ 2 May, 11 „	{ T. M. Burn-Murdoch, M.D. and staff of the R. Hosp. for Sick Children	{ 2 2 <sup>2</sup> 3
Regional Anatomy (Anatomical Demonstrations) <sup>4</sup> .....	{ 1 May, 11 <i>daily</i> .	{ David Hepburn M.D.....	{ ...
Diseases of the Larynx, Ear, and Nose..... ( <i>Mon. &amp; Thurs.</i> .)	{ 6 May, 11 o'cl.	{ P. M'Bride, M.D., C.M..	{ 2 2 <sup>3</sup>
Mental Diseases, with Cl. Instruct. at Morningside Asylum ( <i>Mon. Wed. &amp; Frid.</i> ).....	{ 6 May, 3 „	{ Thos. S. Clouston, M.D. ....	{ 2 2 <sup>2</sup>
Diseases of Tropical Climates .....	{	{ Andrew Davidson, M.D.....	{ 2 2 <sup>2</sup>
Experimental Pharmacology <sup>5</sup> .....	{ 2 May.	{ W. C. Sillar, M.B., B.Sc...	{ 3 3
Diseases of the Skin <sup>6</sup> 7	{ 1 May, 11 „	{ W. Allan Jamieson, M.D.....	{ 2 2
Path. Bacteriology <sup>5</sup> ....	May.	D. A. Welsh, M.D.	3 3 <sup>2</sup>

<sup>1</sup> Fees for second and subsequent attendances, see below.<sup>2</sup> Five Shillings University Entrance-Fee for Non-Matriculated Students. See page 29.<sup>3</sup> Only open to Students holding the Hospital Ticket.<sup>4</sup> Free when taken along with Practical Anatomy.<sup>5</sup> Two hours a day three times a week.<sup>6</sup> Twice a week.<sup>7</sup> Only open to students holding the Hospital Ticket.<sup>8</sup> The class will meet in two sections.

## FEES FOR SECOND AND SUBSEQUENT ATTENDANCES.

Second attendances on £4, 4s. Courses, £3, 3s.; on £3, 3s. Courses, £2, 2s.; subsequent attendances free. Second attendances on £2, 2s. Courses, no reduction; third or subsequent attendances, £1, 1s. Second or subsequent attendances on Class of Diseases of Children, £1, 1s. Clinical Surgery: nine months' ticket, if taken primarily, £6, 6s. (perpetual ticket); three months' after a six months' Course,

£3, 3s.; three months' primary entry, £3, 3s.; second three months, £2, 2s.; third three months, £2, 2s. Perpetual ticket for initial payment for any Course in the Faculty, £6, 6s. Practical Classes and Laboratories, no reduction.

#### OPPORTUNITIES FOR HOSPITAL PRACTICE.

*Royal Infirmary, Edinburgh.*—At 11 o'clock daily. 780 beds. Perpetual Ticket, in one payment, £12; Annual Ticket, £6, 6s.; Six Months, £4, 4s.; Three Months, £2, 2s. Separate payments, amounting to £12, 12s., entitle to a Perpetual Ticket.

*Royal Edinburgh Hospital for Sick Children.*—120 beds, of which 41 are reserved for Surgical Cases. Hospital Ticket for one year, £1, 1s., entitling Student to attend the General Practice of the Hospital, including the Out-Patient Department.

*Edinburgh Royal Maternity and Simpson Memorial Hospital.*—40 beds available for Clinical Instruction. The fees charged are:—For each Six External Cases, £1, 1s.; for three months' course of Internal Clinical Instruction, £1, 1s.

*City Hospital, Edinburgh.*—For Fevers and Infectious Diseases. Total number of beds, 400. Average daily number of patients during 1896, 302. There is at present no fee charged.

*Royal Edinburgh Asylum for the Insane.*—300 beds, available for Clinical Instruction to members of the Class of Mental Diseases. The fee for the course is £2, 2s.

*Number of beds available for the Clinical Instruction of Students of the University, 1640.*

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MATRICULATION, &c. See page 27.

#### CLASS SESSIONS.

There are Two Sessions in each year, viz. :—

I. The Winter Session, which opens on Tuesday, 16th October 1900, and closes on Friday, 22nd March 1901. Practical Anatomy begins on Monday 1st, and Public Health Laboratory work on Tuesday, 2nd October 1900.

The Classes will meet for the last time before the Christmas Vacation on Friday, 21st December 1900, and will reassemble on Tuesday, 8th January 1901.

II. The Summer Session, which opens on Wednesday, 1st May, and closes on Wednesday, 17th July 1901. Operative Surgery begins Tuesday, 16th April.

#### LABORATORIES, MUSEUMS, &c.

The University contains the following Laboratories and Museums, several of the latter belonging in part to the Professors of the respective subjects :—

## I. LABORATORIES.

THE PHYSICAL LABORATORY, established with the view of affording Students a practical knowledge of the construction and use of physical apparatus, and the mode of conducting experimental inquiries, is open daily from 10 to 3, under the superintendence of Professor Tait.

THE ROYAL BOTANIC GARDEN LABORATORY, open daily for the practical study of plants and for research, under the superintendence of the Professor, assisted by J. H. Burrage, M.A., and A. W. Borthwick, B.Sc.

PHYSIOLOGICAL LABORATORY, for the prosecution of Physiological Research, and for the study of Practical Physiology, open daily, under the superintendence of the Professor, assisted by T. H. Milroy, M.D., B.Sc.

PRACTICE OF MEDICINE LABORATORY, for the study of Medicine, and for research in connection with the Practice of Physic, open daily, under the superintendence of the Professor, assisted by James G. Cattanach, M.B., C.M.

DISSECTING ROOMS, open daily under the superintendence of Professor Sir William Turner, assisted by David Hepburn, M.D.; E. J. H. Fraser, M.B., C.M.; David Waterston, M.B., C.M.; C. M. Cooper, M.B., Ch.B.; and other assistants. Open 1st October 1900, and 1st May 1901.

THE CHEMICAL LABORATORIES<sup>1</sup> (distinct from the Practical Chemistry Class Room), have accommodation for forty Students. They contain the necessary equipment for a complete course of instruction in the various branches of chemical work and for research. The instruction given includes complex qualitative analysis, quantitative, inorganic and organic analysis (with special courses in gas analysis, assaying, &c.), and chemical preparations. The training is suited not only for students studying for Science and Arts Degrees or for the Examinations of the Institute of Chemistry, but also for persons desiring to qualify themselves as analysts, technical chemists, &c.

The Laboratories are open from 9.30 to 4.30 daily during the Winter and Summer Sessions, and are under the charge of Professor Crum Brown, assisted by Leonard Dobbin, Ph.D.; Hugh Marshall, D.Sc.; J. P. Longstaff, and James Kerr, B.Sc.

OBSTETRICAL AND GYNECOLOGICAL LABORATORY, for research and study of practical work, under the superintendence of the Professor, assisted by W. Fordyce, M.A., M.D.

<sup>1</sup> Fees for Chemical Laboratory :—*Whole day*—Winter Session, £10, 10s.; or Oct.-Dec., or Jan.-March, or Summer Session, £5, 5s. *Half day*—Winter Session, £6, 6s.; Oct.-Dec., or Jan.-March, or Summer Session, £3, 3s. Preference will be given to Students in the above order. Students who are not Matriculated may attend the Chemical Laboratory on payment of the Entrance Fee of 5s., in addition to the Laboratory Fee.



**TUTORIAL CLASS OF CLINICAL MEDICINE**, in the Wards of the Royal Infirmary, by J. G. Cattanach, M.B., C.M.; Edward Matthew, M.B., Ch.B.; James M. Beattie, M.B.; Wm. Fordyce, M.D. (for Diseases of Women); under the superintendence of the Clinical Professors.

**NATURAL HISTORY LABORATORIES**, for study of the structure and development of Invertebrate and Vertebrate forms, open daily, under the superintendence of the Professor, assisted by J. Beard, D.Sc., Ph.D., and Gregg Wilson, M.A., D.Sc., Ph.D.<sup>1</sup>

**MATERIA MEDICA LABORATORIES**, for the study of Practical Materia Medica and Practical Pharmacy, and for Pharmacological and Pharmaceutical research, open daily, under the superintendence of the Professor, assisted by William C. Sillar, M.B., C.M., B.Sc., and D. B. Waters, M.B., Ch.B.

**TUTORIAL CLASS OF CLINICAL SURGERY AND SURGICAL PATHOLOGY**, in the Infirmary, by R. Black Purves, M.B., C.M., F.R.C.S.E., and the Resident Surgeons, under the superintendence of the Clinical Professor.

**TUTORIAL CLASS IN MIDWIFERY**, by William Fordyce, M.A., M.D., under the superintendence of the Professor.

**FORENSIC MEDICINE LABORATORY** under the superintendence of the Professor, assisted by T. W. Drinkwater, Ph.D.

**PUBLIC HEALTH LABORATORY**, for laboratory work for candidates for Qualification in Public Health and for Hygienic investigation, comprises three departments, viz.: a Chemical, a Bacteriological, and a Meteorological Department, open daily, under the superintendence of the Professor, assisted by J. Buchanan Young, M.B., D.Sc., (Pub. Health). Opens 2nd October 1900 and 1st May 1901.<sup>1</sup>

**SURGICAL LABORATORY**, divided into two parts—(a) General Surgical Pathology, (b) Bacteriology,—is utilised for teaching Systematic Surgery, and every facility is afforded for investigation, under the superintendence of the Professor, assisted by John Stevenson, M.B., C.M., F.R.C.S.E.

**PATHOLOGICAL LABORATORY**, for the study of Pathological Anatomy and for Pathological Research, including Histological and Bacteriological Departments, under the superintendence of the Professor, assisted by D. A. Welsh, M.A., M.D., B.Sc., and James Martin Beattie, M.B.

**THE ROYAL EDINBURGH ASYLUM** is open to members of the Class of Mental Diseases for Practical Instruction, under the superintendence of the Physician-Superintendent.

**PRACTICAL INSTRUCTION** in the use of the Ophthalmoscope and in the detection of errors of refraction is given to members of the Class of Diseases of the Eye at the Eye Wards of the Royal Infirmary, under the Superintendence of the Lecturer.

<sup>1</sup> Fees—Winter Session, £10, 10s.; Summer Session, £6, 6s.

DISEASES OF THE LARYNX, EAR AND NOSE.—In connection with this subject Tutorial Instruction in the Practical Methods of examining patients and in the use of instruments and appliances is given by Dr Logan Turner at suitable hours.

DISEASES OF THE SKIN.—Tutorial Instruction in the Practical Methods of examining patients, of using the microscope in the diagnosis of cutaneous affections, in the employment of instruments and the application of remedies, is given at suitable hours, by Dr Norman Walker.

DISEASES OF CHILDREN.—Clinical Instruction in the wards, out-patient department, and *post-mortem* room at the Royal Hospital for Sick Children.

II. MUSEUMS. See pages 55-57.

## Courses of Lectures, &c.

1900-1901.

### I. BOTANY.

PROFESSOR BALFOUR.

*Summer Session, 1901.*

1. LECTURES.—The Course is a general one—Organographical, Physiological, and Taxonomic. Lectures are given every Monday, Tuesday, Wednesday, Thursday, and Friday. In addition, lectures on special parts of the subject are given at intervals during the Session.

2. PRACTICAL CLASS.—In this class opportunity is given for the examination of microscopic structure of plants, and for the study of life-histories of plants illustrating the lectures. It is conducted by the Professor and Assistants.

3. EXCURSIONS. — Excursions are made on Saturdays for the practical study of plants in the fields.

The Royal Botanic Garden, with the Botanical Museum and Herbarium, are open daily for the examination of living as well as preserved specimens of plants.

## II. NATURAL HISTORY.

PROFESSOR EWART.

1. LECTURES ON ZOOLOGY.—*Winter Session.*—The first part of the course will treat of the Principles of Biology as illustrated by the Life-History, Morphology, and Physiology of one of the Vertebrata. The Distinctive Characters of the Chordata and the structure, habits, &c., of a series of vertebrate types will next be considered. The rest of the course will be chiefly devoted to : (1) Leading types of Invertebrates ; (2) Structure and life-history of the more important animal parasites ; and (3) Elements of Embryology, Classification, and Geographical Distribution of Animals.

*Summer Session.*—An Elementary Course, qualifying for the First Professional and the First B.Sc. Examinations, and *pro tanto* for graduation in Arts, will be given by the Professor, during the Summer Session 1901.

2. ELEMENTARY PRACTICAL ZOOLOGY.—*Winter and Summer Sessions.*—In these Classes Students have the opportunity of studying practically the more important types described in the Lectures, amongst others :—Amœba, Paramœcium, Hydra, Hirudo, Arenicola, Helix, Astacus, Raia, Rana, Columba, and Lepus.

3. ADVANCED COURSES.—These Courses are intended to assist students preparing for the Degree of B.Sc. in Zoology.

(1) The Intermediate Course will be held during the Summer Session, and will be devoted to the Systematic Zoology of the Invertebrata. This class is prescribed for the Second B.Sc. Examination in Zoology and Comparative Anatomy.

(2) During the first half of the Winter Session an Advanced Course of Lectures and Laboratory work will be given by Dr Beard, University Lecturer on Vertebrate Zoology, on the Comparative Morphology of the Vertebrata. (See Faculty of Science.)

The Laboratory work will extend over the first half of the Winter Session and the Summer Session.

RESEARCH WORK.—The Laboratories are also available during both Sessions for research. For Regulations, see page 388.

COMPARATIVE EMBRYOLOGY.

VERTEBRATE MORPHOLOGY.

J. BEARD, D.Sc.

For Synopses, see under Faculty of Science.

III. CHEMISTRY.

PROFESSOR CRUM BROWN.

1. LECTURES—In the Lectures the general laws of chemical action are explained and illustrated.

The chief non-metallic elements and their more important compounds are discussed in detail. The metals and the different series of metallic salts are considered more generally, details being given in the case of the more important substances.

The principles upon which the classification of organic substances is based are explained, and the properties of the chief groups illustrated by means of examples.

Tutorial Classes, once a week, are conducted by Dr Dobbin.

A course of 50 lectures on Organic Chemistry is delivered in Summer.

A Class for Advanced Students is held in Winter. The subject for the Winter of 1900-1901 is "Selected Chapters in Inorganic Chemistry."

2. LABORATORY.—In the Laboratory, Students who can devote several hours each day to work, are taught Chemical Analysis (including Mineral Analysis, Organic Analysis, and Gas Analysis), the preparation of chemical substances, and the examination and determination of their properties. Full equipment for instruction in metallurgical work and assaying has recently been provided. Students who are sufficiently advanced in such practical work may engage in the investigation of chemical problems under the superintendence of the Professor and the chief assistant.

3. PRACTICAL CLASSES.—The work of these classes consists in the study of the reactions of the commoner Salts.

*Class-Book.*—Notes on Reactions of Salts (Thin).

Students who have worked at least three months in the Laboratory need not attend the class of Practical Chemistry before appearing for the First Professional Examination in Medicine, for the First B.Sc. Examination, or for Examination in Chemistry for M.A.

#### IV. PHYSICS.

PROFESSOR TAIT (*Summer*), and CARGILL G. KNOTT, D.Sc.  
(*Winter*), *Lecturer*.

The subjects embraced in the Course of Physics are:—

1. Properties of Matter—including Inertia, Gravitation, Molecular Forces, &c.
2. Abstract Dynamics—including Kinematics and Newton's Laws of Motion, with their consequences as regards Statics and Kinetics of Solid, Liquid, and Gaseous Bodies, and the Physical Measurement of Time.
3. Sound, and Wave-propagation in general, Intensity, Pitch, and Quality of Musical Sounds, Harmonics, Concords, &c.
4. Heat, its Nature, Effects, Measurement, Transference, and Transformations—Measurement of Temperature and of Absolute Temperature; Thermo-dynamics.
5. Light (1) Geometrical Optics, Speed of Light, Laws of Reflection and Refraction; Construction and Effects of Mirrors, Prisms, Lenses, and Microscopes; Images, Conditions of Distinct Vision; (2) Physical Optics, Interference, Dispersion, Diffraction, Double Refraction, Polarization, Spectrum Analysis.
6. Electricity, including Frictional and Voltaic Electricity, Thermo- and Magneto- Electricity, Electro-Dynamics, and Magnetism, with their practical applications. Measurements of Potential, Electromotive Force, Current, &c., Batteries, Dynamos, Electrometers, Galvanometers, Voltameters, &c.

Text-books: Tait's *Properties of Matter*; Knott's *Physics*.

## V. ANATOMY.

PROFESSOR SIR WILLIAM TURNER.

*Winter Courses.*

I. LECTURES ON ANATOMY, at 1 P.M.—It is intended in this Course to bring before the Student, in a systematic manner, the structure of the Human Body. The different systems and organs will be described, both in the more obvious arrangements and relations of parts which can be examined by the naked eye, and in their more minute or microscopic structure. The Course includes, therefore, both Textual or General Anatomy and Descriptive Anatomy. The Lectures are illustrated by recent dissections, by wet and dry preparations, by a large collection of Osteological specimens, and by drawings and diagrams. Structures too minute to be recognised by the naked eye are demonstrated under the Microscope.

To assist the Junior Members of the Lecture Class to acquire a knowledge of Osteology, Tutorial Demonstrations on the bones will be given during the earlier months of the Session without additional fee. All the members of this class have access to a systematically arranged series of osteological specimens and of models. Written Examinations for both Junior and Senior Students are held periodically during the Session.

*Text-Books.*—Gray's "Anatomy," or Cleland and Mackay's "Anatomy," Quain's "Elements of Anatomy," Holden's "Osteology."

2. PRACTICAL ANATOMY, under the superintendence of the Professor, aided by the Demonstrators, David Hepburn, M.D., C.M.; E. H. Fraser, M.B., C.M.; David Waterston, M.B., C.M.; and C. M. Cooper, M.B., Ch.B., and by several other assistants. Examinations of both Junior and Senior Students on dissected parts are conducted by the Demonstrators and the Professor. Special tutorial Demonstrations will be given to Senior Students on the joints, brain, organs of special sense, and other viscera.

This Course will commence on 1st October. The Dissecting-rooms are open from 9 A.M. to 5 P.M., and on Saturdays



from 9 A.M. to noon. The Mackenzie Bursaries are awarded to members of this Class for proficiency in dissection.

*Text-Books.*—"Demonstrations of Anatomy," by Ellis, or Heath's "Practical Anatomy," or Holden's "Manual of the Dissection of the Human Body," or Cunningham's "Manual of Practical Anatomy."

REGIONAL ANATOMY (ANATOMICAL DEMONSTRATIONS).

DAVID HEPBURN, M.D., *Lecturer.*

In this Course, which is conducted in the Theatre, the structure of the human body is displayed and demonstrated topographically, from the surface inwards.

This Class meets about ninety times, and non-competitive Written Examinations are held monthly during the Session.

*Summer Courses.*

PRACTICAL ANATOMY.

PROFESSOR SIR WILLIAM TURNER.

This Course, beginning on 1st May, is the same as in Winter. The Rooms are open from 9 A.M. to 5 P.M.; on Saturdays from 9 A.M. to noon. Examinations are conducted on dissected parts by the Professor and by the Demonstrators, David Hepburn, M.D., C.M.; E. H. Fraser, M.B., C.M.; D. Waterston, M.B., C.M.; and C. M. Cooper, M.B., C.M.; and other assistants, and the joints, brain, and organs of sense will be specially demonstrated.

REGIONAL ANATOMY (ANATOMICAL DEMONSTRATIONS).

DAVID HEPBURN, M.D., *Lecturer.*

This Course, open without additional Fee to those engaged in Practical Anatomy in the Summer, will consist of demonstrations on some special departments of Anatomy.

## VI. PHYSIOLOGY.

PROFESSOR SCHÄFER, WITH DR T. H. MILROY AND ASSISTANTS.

SYSTEMATIC LECTURES.

Course of about 100 Lectures and Demonstrations, held in Winter :—

The Courses in Physiology and Practical Physiology embrace the study of the minute Structure, Composition, and Functions of the Tissues and Organs of the Body.

*Text-Books.*—*Elementary.*—Starling's "Elements of Physiology," "Kirke's "Physiology," Schäfer's "Essentials of Histology." *More advanced.*—Waller's "Physiology," Stewart's "Physiology," Foster's "Physiology," Schäfer's "Advanced Text-Book of Physiology," Microscopical Parts of Quain's "Anatomy."

#### PRACTICAL PHYSIOLOGY.

This Course is divided into three sections—

1. *Experimental Physiology*, in which every student performs the chief experiments illustrating the functions of muscle-nerve, the heart, &c., and records the results by graphic methods.

*Text-Books.*—Brodie's "Essentials of Practical Physiology," Stirling's "Practical Physiology."

This Class is held in the Winter Session.

2. *Practical Chemical Physiology*, in which every student performs the qualitative and quantitative analysis of the Urine in its normal and abnormal conditions, with special reference to clinical work, and such practical work at the Chemistry of Proteids and Carbohydrates, Blood, Milk, Bile, and Digestion, as is possible in a class.

This Class is held in the Winter Session.

*Text-Book.*—Halliburton's Essentials of Chemical Physiology.

3. *Practical Histology*, in which every Student prepares, examines, and preserves for himself most of the tissues and organs of the body. Each student is provided with a microscope, and all reagents, but it is an advantage for a student to bring his own microscope, provided it is a sufficiently good one. The Professor should be consulted as to the best kind of microscope to be obtained.

*Text-Book.*—Schäfer's "Course of Practical Physiology."

This Class is held in Summer.

4. *Demonstrations of Physiological Instruments, &c.*—These

are held in Winter, and are open to all who are attending the Systematic Lectures.

ADVANCED PRACTICAL PHYSIOLOGY.

See Synopsis under Faculty of Science.

PROFESSOR SCHÄFER, T. H. MILROY, M.D., B.Sc., *Lecturer*, AND ASSISTANTS.

PHYSIOLOGICAL RESEARCH.

The Physiological Laboratory is open daily for the prosecution of Research. Application must be made to the Professor.

VII. MATERIA MEDICA.

PROFESSOR THOMAS R. FRASER.

Materia Medica comprises the subjects of pharmacognosy, pharmacy, pharmacology, and therapeutics, diet, remedial uses of electricity and galvanism, heat and cold, climate, &c. Instruction in Materia Medica is given in (A) a course of 100 Lectures during the Winter Session, and in (B) Practical Classes during the Summer Session, and of equivalent duration during the Winter Session.

A.—LECTURES ON MATERIA MEDICA—This course includes the natural history, sensible and chemical properties, physiological action (or pharmacology), therapeutical uses, and modes of administering remedies, ordinarily so called. Such remedies consist of (*a*) inorganic substances; (*b*) chemical products; (*c*) vegetable substances; (*d*) animal substances. Although formerly comprised in the course of instruction in Materia Medica, the remedial uses of Diet, Electricity, Climate, &c., cannot now be taught with any advantage in this course, as, under the New Medical Ordinances, the study of Materia Medica is required to be completed before the student has entered upon the study of the diseases to which the above are applicable.

B.—PRACTICAL CLASSES.—*Practical* instruction is given in

the following subjects, which cannot satisfactorily be taught in lectures :—1. Pharmacy, or the processes for obtaining the pharmaceutical preparations of drugs. 2. Prescription-writing. 3. Dispensing, or the making up of medicines in forms suitable for administration in disease.

It is recommended that the Practical Class be attended before the lectures on *Materia Medica*. Practical classes are taught in the Summer Session daily, at such hours as are found most convenient. A winter class will also be formed in October.

#### RESEARCH LABORATORIES.

The above laboratories will be open daily for research on the pharmacological action and chemical composition of medicinal substances, under the superintendence of the Professor and his assistants. Application to be made to the Professor.

#### EXPERIMENTAL PHARMACOLOGY.

W. C. SILLAR, M.B., C.M., B.Sc., *Lecturer*.

This course consists of (1) practical instruction in the methods employed in pharmacological research and (2) the experimental study of the pharmacological action of a number of typical medicinal substances.

The Course is adapted for students who desire a practical knowledge of pharmacology, and who have attended the Class of *Materia Medica*.

Previous attendance at the Class of Advanced Practical Physiology is recommended.

The Course will commence in October or May.

#### VIII. PATHOLOGY AND MORBID ANATOMY.

PROFESSOR GREENFIELD.

This Course includes General Pathology, General Pathological Anatomy and Histology, and Systematic Morbid Anatomy :—

1. General Pathology (including General Pathological Anatomy), *i.e.* the study of the processes of disease, &c. Under this head are considered Degenerative Processes, Inflammation, Repair, Morbid Growths, &c.

2. General Etiology is treated in fuller detail with reference to Parasitic and Infective Diseases, and includes Bacteriology and methods of bacteriological research.

3. Systematic Morbid Anatomy and Histology—a study of the more important diseases of the principal systems and organs of the body.

In illustration of the lectures, there are frequent naked eye, microscopic, and lantern demonstrations.

#### PRACTICAL PATHOLOGY.

Classes for Practical Instruction in MORBID ANATOMY and PATHOLOGICAL HISTOLOGY are conducted in the Pathological Laboratory—microscopes and other necessary apparatus being supplied. The Course consists of—1st. Naked Eye Demonstrations; 2nd. Histological investigation and preparation of Morbid Structures and Organs; 3rd. Elementary Bacteriology.

In Winter the class meets five times a week, from the beginning of the Session till the end of January; in Summer, five times a week, from the beginning of May till the end of July.

The Laboratory is also open daily from 10 A.M. till 4 P.M. for Pathological Research, under the Professor and his Assistants.

### IX. FORENSIC MEDICINE AND PUBLIC HEALTH.

#### *Part I.—Forensic Medicine.*

PROFESSOR SIR HENRY DUNCAN LITTLEJOHN.

#### MEDICAL EVIDENCE GENERALLY.

(1) Documentary—(2) Oral—(3) Experimental—Examination of the living; identity; examination of the dead; identity cause of death; exhumations, autopsies.

## MEDICAL EVIDENCE SPECIALLY.

*Questions affecting Health or Life.*—(1) Assaults and Homicide—Wounds and other external injuries ; asphyxia. Starvation. Heat and cold. Poisons—(2) Suicide—(3) Offences against Chastity — Rape, &c. ; concealment of pregnancy ; criminal abortion ; infanticide—(4) Malpraxis and Neglect of Duty.

*Questions affecting Civil Rights or Social States.*—Marriage and Divorce. Impotence and sterility. Live birth. Survivorship. Insanity. Feigned diseases.

*Text-Books.* — Taylor's "Medical Jurisprudence," Guy's "Principles of Forensic Medicine."

*Part II.—Public Health.*

## PROFESSOR HUNTER STEWART.

Fourteen Lectures of the Course will be devoted to Public Health.

## X. PRACTICE OF MEDICINE.

## PROFESSOR WYLLIE.

The Course of Instruction comprises Lectures on the ætiology, morbid anatomy, clinical history, diagnosis, prognosis, and treatment of—

I. General diseases.

II. The diseases of the different systems and organs of the body.

It is intended that each Course shall be, as far as possible, a complete review of the present aspects of the Principles and Practice of Medicine.

The Course is illustrated by specimens of morbid anatomy and by numerous drawings, diagrams, and charts from the Anatomical Museum, and from the Professor's private collection.



TUTORIAL CLASS.

Practical instruction in connection with the Course is given to the members of the Class by the Assistant.

*Text - Books.* — Fagge's, Roberts's, Bristowe's, Osler's, or Frederick Taylor's "Practice of Medicine."

MENTAL DISEASES.

THOMAS S. CLOUSTON, M.D., *Lecturer.*

This Course consists of—

1. Systematic Lectures in the University during the Summer Session on the Classification, Symptoms, Causes, and Treatment of Mental Diseases, "Macpherson's Mental Afflictions." The Pathology of Insanity by Dr W. Ford Robertson.

2. Pathological demonstrations, naked eye, lantern, and microscopic, in the University and at the Royal Asylum, Morningside, of the Morbid Anatomy of Insanity. Students will have an opportunity of original investigation in the Pathological Museum of the Asylum.

3. Clinical instruction at the Royal Asylum, Morningside (West House), in all the forms of Mental Disease. Students have the opportunity of personally coming in contact with and examining the cases, so as to learn the modes of managing and dealing with patients labouring under Mental Disease, and they are exercised in the diagnosis of Insanity and the drawing up of certificates; the aim being to enable them to recognise its early stages, to distinguish its varieties, to adopt suitable treatment, and to advise the relatives as to sending the patient to an asylum. There is a clinical field of 500 beds, comprising all the wards except those for private patients. This part of the course extends through the Summer and the last month of the Winter Session.

4. Instruction in regard to the medico-legal, hereditary, educational, and social relations of Mental Disease, and on its bearings and significance in ordinary medical practice.

There are Free Clinical Clerkships, tenable for three months, in the Royal Edinburgh Asylum, and in several other Asylums, in connection with the class.

*Text-Book.*—Dr Clouston's "Clinical Lectures on Mental Diseases," Maudsley's "Pathology of the Mind," Bevan Lewis' "Text-Book of Mental Diseases."

## XI. SURGERY.

PROFESSOR CHIENE.

### *Winter Session.*

1. *Lectures.* This Course is devoted to a systematic consideration of the Principles and Practice of Surgery. Each course is intended to embrace, as far as possible, a complete view of the present aspects of the Science and Practice of Surgery.

Written examinations are held at stated periods, and at the end of the Session a practical examination is held on the work of the Tutorial Classes.

2. *Tutorial Instruction*, at hours most convenient for the students, includes—

- (a) *Practical Instruction in Bandaging and the Treatment of Fractures and Dislocations* on the living subject. This class is divided into sections for Senior and Junior Students.
- (b) Weekly Revisal of the Lectures, together with Demonstrations of the Preparations in the Surgical Museum illustrative of the Lectures on Surgery.
- (c) Special Demonstrations to Senior Students on
  - (1) Surgical Anatomy.
  - (2) Surgical Pathology.
  - (3) Surgery of the Ear.

These Demonstrations are illustrated by museum specimens and lantern slides.

### *Summer Session.*

The Summer Session is devoted to the Practical Aspects of Surgery. Special attention is given to Surgical Anatomy and Operative Surgery. The class meets in April, May, and June. Oral examinations and tutorial instruction in the Treatment of Fractures and Dislocations, and in the uses of surgical instruments, form a special part of the course. Special demonstrations on Surgical Pathology.

The Surgical Laboratory for (1) Surgical Pathology; and (2)

Bacteriology, is open daily for original work during the Winter and Summer Sessions, under superintendence of the Professor, assisted by John Stevenson, M.B., C.M. Applications to be made to the Professor.

*Text-Books—Winter Session.*—The Professor's "Lectures on the First Principles of Surgery"; Keen and White's Text-Book of Surgery; Da Costa's "Manual of Modern Surgery." *Summer Session.*—The Professor's "Lectures on Surgical Anatomy," and Joseph Bell's "Manual of Surgical Operations," 1892; Kocher's Operative Surgery (translated by H. J. Stiles).

#### DISEASES OF THE EYE.

GEORGE ANDREAS BERRY, M.B., C.M., *Lecturer.*

The Course will consist of at least twelve systematic lectures in the University, and of twelve or more clinical lectures at the Royal Infirmary.

In addition there will be meetings for individual clinical instruction, including Refraction and Ophthalmoscopy.

*Text-Books.*—Berry's "Diseases of the Eye," Swanzy's "Handbook on Diseases of the Eye," Nettleship on "Diseases of the Eye," Fuchs' "Text-Book of Ophthalmology."

#### DISEASES OF THE LARYNX, EAR, AND NOSE.

P. M'BRIDE, M.D., C.M., *Lecturer.*

The Course of Instruction given in the Royal Infirmary consists of not less than eighteen lectures, of which six are systematic and twelve are clinical. These are delivered on Mondays and Thursdays, at 11 o'clock A.M.

A concise account of the more common diseases of the Ear, Nose, and Throat, and their treatment, is given in the systematic lectures.

In the clinical lectures, patients are brought before the class and their condition is examined into and discussed, and, where possible, operative treatment is carried out. Methods of examination, instruments and appliances used in diagnosis and treatment are demonstrated.

Members of the class may attend the out-patient clinics of

the Department on Tuesdays and Fridays at eleven o'clock, and operations in the Wards.

Tutorial instruction in the practical methods of examining patients, and in the use of instruments and appliances, is given by Dr Logan Turner, at suitable hours in connection with the lectures.

## XII. MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

PROFESSOR SIMPSON.

The Course of Instruction comprises Lectures on—

I. Anatomy and Physiology of the Female Organs of Reproduction.

II. Physiology, Pathology, and Therapeutics of Pregnancy.

III. Parturition—Natural (Eutocia), and Morbid (Dystocia).

IV. Hygiene, Pathology, and Therapeutics of the Puerperal State.

V. Hygiene, Pathology, and Therapeutics of Infancy.

VI. Special Pathology and Therapeutics of the Female Organs of Reproduction.

One day weekly is devoted to the Gynecological Section of the Course; and the Diseases of Women may be studied clinically in the Royal Infirmary, in the Buchanan Medical Ward, in connection with the class of Clinical Medicine.

After the Class-roll is made up, Tutorial classes are formed for Practical Instruction in the use of Obstetric and Gynecological Instruments and Appliances.

Midwifery may be studied clinically in the Royal Maternity, of which the Professor is, *ex officio*, one of the Medical Officers, and where he attends during the first three months of the Winter Session. The Professor makes a special Clinical visit with the Students who have taken the Maternity Ticket, on Saturdays, at 10 A.M.; and he or one of the Assistant Physicians gives Clinical Instruction on Wednesday afternoons at 4 P.M.

### *Summer Session.*

A Course of Instruction in Obstetric and Gynecological Operations, with Demonstrations of the use of Instruments

and Appliances, is conducted in the Summer Session, at 10 A.M.

On Tuesdays and Fridays the Professor gives Lectures and Demonstrations. On the other days the sections of the class are trained in the investigation and treatment of Female Diseases, and the members of the class have an opportunity of practising operations on lay figures.

*Text-Books.*—Playfair's, Lusk's, or Parvin's "Midwifery." The Professor's "Contributions to Obstetrics and Gynecology." Hart and Barbour's "Manual of Gynecology." Ballantyne's "Diseases of Infancy."

### XIII. CLINICAL SURGERY.

PROFESSOR ANNANDALE.

The subjects of this Course are the symptoms, diagnosis, pathology, and treatment of Surgical diseases and injuries as met with in the living body, and the modifications and complications which occur in connection with them. Patients are brought before the class in the University-Clinical Surgical Theatre of the Infirmary, and their condition is carefully examined and discussed, due regard being taken to avoid injuring their feelings or aggravating their disease. The history and probable nature of the case having been stated, the proper treatment is suggested and described, and any required operations or other treatments are carried out at once, or at the first convenient opportunity. Ward Cliniques are given at least two days in the week by the Professor, and on other two days in the week the cases of patients attending the out-patient department are specially demonstrated by the Assistant Surgeon, Mr Hodsdon, so as to instruct the students in the common and minor surgical affections. Practical instruction as to the examination of patients, the observation of symptoms, the treatment of surgical emergencies, the use of instruments, the application of dressings, and other surgical details is given by the Clinical Tutor (Dr J. Wheeler Dowden) attached to the Chair. This latter instruction is *free* to all Students attending the Course.

*Text-Books.*—Any of the recent standard works on Surgery. Students are also advised to study the best works (old and new) on the special subjects of Practical Surgery.

In connection with this class it is to be noted that under the New Regulations—(1) Nine months' attendance on Lectures is required, and it is advised that at least six months of this be continuous. (2) That attendance at the *Ward Cliniques* is compulsory and forms part of the Course. (3) Students must also produce a certificate that they have acted as Dresser or Clerk in Surgical Wards for six months.

#### XIV. CLINICAL MEDICINE.

PROFESSORS FRASER, GREENFIELD, AND WYLLIE, AND  
(FOR DISEASES OF WOMEN), SIMPSON.

This Course, consisting of Clinical Lectures and Instruction in the University wards of the Royal Infirmary, is conducted conjointly by the Clinical Professors—all being on duty both in the Winter and Summer Sessions, the Professor of Midwifery giving lectures and demonstrations on Gynecology on certain days.

The Course consists of:—1. Practical Instruction on three days a week at the bedside. 2. Critical Expositions and Discussions of cases in the lecture-room on two days a week.

Every facility is afforded to students to act as Clinical Clerks, and those are preferred who have had a course of tutorial instruction. At the close of each Summer Session, six gentlemen, who have been members of the Class, are appointed Resident Physicians in the Clinical Wards for the following Winter and Summer Sessions.

#### CLINICAL TUTORIAL CLASS.

Practical instruction in the Methods of Physical Examination is given to the Class by the University Clinical Tutors.

Junior Students are strongly advised to take this course of instruction along with their first course of Clinical Medicine.



DISEASES OF THE SKIN.

WILLIAM ALLAN JAMIESON, M.D., C.M., *Lecturer.*

The Course of Instruction, which is given in the Royal Infirmary, consists of not less than twenty Clinical Lectures, delivered in the Medical Theatre on Wednesdays and Saturdays at 11 o'clock a.m. In these, patients are brought before the class and their condition is examined into and demonstrated, and the appropriate treatment prescribed and illustrated.

The Ordinary Out-patient Cliniques of the Department are held on Wednesdays and Saturdays, and operations are performed in the Wards on Tuesdays and Fridays. These are open to all Students holding an Infirmary Ticket, and also to Members of the class.

Tutorial Instruction in the practical methods of examining patients, of using the microscope in the diagnosis of cutaneous affections, in the employment of instruments and the application of remedies, is given by Dr Norman Walker, at suitable hours in connection with the Lectures.

*Text-Books.*—Dr Jamieson's "Diseases of the Skin," Dr Norman Walker's "Introduction to Dermatology."

CLINICAL INSTRUCTION ON DISEASE IN CHILDREN

*(at the Royal Hospital for Sick Children).*

THOMAS MONCK BURN MURDOCH, M.B., *Lecturer*, and the Staff of the Royal Hospital for Sick Children.

The Courses consist of one Clinical Lecture and two Ward Cliniques weekly, demonstrations in the post-mortem room, and attendance at the out-patient department, also at operations on fixed days. In the surgical out-patient department a large number of minor surgical operations are performed daily.

The Courses are made as practical as possible, and students have full opportunities given for studying cases clinically and for becoming acquainted with the methods of examining children, and the diseases more peculiar to them.

At least two Courses will be conducted annually, one in the

Winter before Christmas, and one in the Summer Session. A second Winter Course after Christmas will also be given if sufficient students come forward.

## COURSE OF INSTRUCTION IN TROPICAL DISEASES SPECIALLY QUALIFYING FOR MEDICAL APPOINTMENTS IN THE CROWN COLONIES AND PROTECTORATES.

### I. PATHOLOGICAL BACTERIOLOGY.

D. A. WELSH, M.D., *Lecturer.*

The Course is a practical one, consisting of Laboratory Instruction, Demonstrations, and Lectures :—(a) *General*.—Morphology and Life History of Micro-organisms ; Preparation of Culture Media ; Methods of Isolation and Cultivation, including Anaerobic Cultures ; Methods of Staining ; Separation of Bacterial Products ; Inoculation, &c.

(b) *Special*.—A Systematic Study of Organisms Pathogenic to the Human Subject—their characters, their modes of producing disease, &c. A number of the more important non-pathogenic organisms are also studied.

The Course is given in Winter, but may also be given in Summer.

*Text-Book*.—"Manual of Bacteriology," by Muir and Ritchie.

### II. DISEASES OF TROPICAL CLIMATES.

ANDREW DAVIDSON, M.D., *Lecturer.*

The Course will consist of twenty-five Lectures, and of demonstrations of the Micro-organisms of tropical diseases.

The Lectures will comprise an account of—1. The chief endemic maladies—Malaria, Dysentery, Liver Abscess, Beriberi, Yaws, &c., and of Sunstroke.

2. Leprosy and other bacterial diseases.

3. The three great tropical pestilences, Cholera, Plague, and Yellow Fever, along with the principles of Epidemiology.

4. The less known fevers of tropical and subtropical regions.

5. The more important parasitic maladies—Filariasis, Ankylostomiasis, Bilharzia disease, &c.

6. Climatology and tropical Hygiene.

*Text-Book.*—Davidson's "Hygiene and Diseases of Warm Climates."

The dates of commencement and hours of the Lectures for the Winter and Summer Sessions will be announced later.

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## Graduation in Medicine and Surgery.

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### A—REGULATIONS APPLICABLE TO ALL WHO BEGIN MEDICAL STUDIES AFTER 1ST OCTOBER 1892.

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*For those who began Medical Studies before 1st October 1892, see  
Abridged Regulations B, page 388.*

I. Four Degrees in Medicine and Surgery are conferred by the University of Edinburgh, viz., Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.). The Degree of Ch.B. is not conferred on any person who does not at the same time obtain the Degree of M.B., and the Degree of M.B. is not conferred on any person who does not at the same time obtain the Degree of Ch.B.

[These Degrees admit to the Medical Register. They qualify for Practice throughout Her Majesty's dominions, and for admission to the Military, Naval, and other Public Medical Services in the United Kingdom.]

II. Subject to Regulations to be made from time to time by the University Court, the University may also confer Diplomas in Special Branches of Medical and Surgical Practice on Graduates of the University in Medicine and Surgery.

[A University certificate is granted, on certain conditions, in Diseases of Tropical Climates. See page 391.]

### PRELIMINARY EXAMINATION.<sup>1</sup>

III. Before commencing medical studies, each student must pass a Preliminary Examination in (1) English, (2) Latin, (3) Elementary Mathematics, and (4) Greek or French or German: Provided always that, in the case of a candidate whose native language is not English,

<sup>1</sup> See also pages 438 and 439.

an examination in the native language of the candidate<sup>1</sup> may be substituted for one in either French or German, and an examination in any other classical language<sup>1</sup> for one in Latin or Greek.

IV. The extent and standard of the Preliminary Examination is determined by the Joint Board of Examiners constituted under Ordinance, No. 13 [General, No. 8 Regulations as to Examinations], in accordance with the terms of that Ordinance.

V. The Preliminary Examination is conducted in accordance with the provisions of Ordinance No. 13 [General, No. 8 Regulations as to Examinations];—and, subject to the provisions of the immediately succeeding section hereof, a Candidate shall be obliged to pass in all the required subjects at one or not more than two Examinations; provided that he may offer himself for re-examination as often as may be necessary to satisfy this condition.

VI. A Degree in Arts, or in Science (not being a Degree *honoris causa tantum*), in any of the Universities of the United Kingdom, or in any Colonial<sup>2</sup> or Foreign University specially recognised for the purpose by the University Court, exempts from the Preliminary Examination; and the Joint Board of Examiners appointed under the provisions of Ordinance, General, No. 8 [Regulations as to Examinations], has power to determine what examinations, other than those for the degrees hereinbefore mentioned, shall be accepted either in whole or in part in place of the Preliminary Examination.<sup>3</sup>

### PROFESSIONAL EDUCATION.<sup>4</sup>

VII. Candidates are admitted to the Degrees of M.B. and Ch.B. only after they have fulfilled the following conditions:—

1. The Candidate must have been engaged in Medical study for at least five years.
2. In each of the first four years the Candidate must have attended at least two courses of instruction, in one or more of the subjects of study specified in sub-section 4 hereof—each Course extending over a session of not less than five months, either continuous or divided into two terms; or, alternatively, one such Course, along with two Courses, each extending over a session of not less than two and a half months.
3. During the fifth or final year the Candidate must be engaged in

<sup>1</sup> Candidates who propose to be examined in a language other than those above-named are required to give intimation thereof before 1st February or 1st July for the Examinations in spring and autumn respectively.

<sup>2</sup> University recognised in terms of this section: Princeton, New Jersey, U.S.A.

<sup>3</sup> See page 440.

<sup>4</sup> No Course of Lectures will be allowed to qualify unless the Lecturer certifies that it has embraced at least 100 Lectures, or 50 Lectures, in conformity with the requirements of this section. Three Months' Courses on *Materia Medica*, Pathology and Midwifery do not qualify unless, in the case of Midwifery, they conform to the Regulation on p. 359. Apprenticeship, Dispensary or Hospital Practice, Practical Midwifery, and Vaccination, &c., are not reckoned as *Classes* in making up an *Annus Medicus*.

Clinical study for at least nine months at the Royal Infirmary, Edinburgh, or at one or more of such Public Hospitals or Dispensaries, British or Foreign, as may be recognised for the purpose by the University Court.

4. The Candidate must, during his Curriculum, have attended a Course or Courses of instruction in each of the following subjects of study, including such Examinations as may be prescribed in the various Classes, viz. :—

(1.) ANATOMY, . . . . .	{	During a Course of not less than Five Months.
(2.) PRACTICAL ANATOMY, . . . . .	{	During two Courses of not less than Five Months each. <sup>1</sup>
(3.) CHEMISTRY, . . . . .	{	
(4.) MATERIA MEDICA and THERAPEUTICS, . . . . .		
(5.) PHYSIOLOGY or INSTITUTES OF MEDICINE, . . . . .		
(6.) PRACTICE OF MEDICINE, . . . . .		
(7.) SURGERY, . . . . .		
(8.) MIDWIFERY, and the DISEASES peculiar to WOMEN and INFANTS. Two Courses of Midwifery, of Three Months each, provided different departments of Obstetric Medi- cine be taught in each of the Courses, are reckoned equivalent to a Course of not less than Five Months, . . . . .	{	During Courses of not less than Five Months.
(9.) PATHOLOGY, . . . . .	{	
(10.) PRACTICAL CHEMISTRY, . . . . .		
(11.) PHYSICS (including the DYNAMICS OF SOLIDS, LIQUIDS, and GASES, and the RUDIMENTS OF SOUND, HEAT, LIGHT, and ELECTRICITY), . . . . .		
(12.) ELEMENTARY BOTANY, . . . . .		
(13.) ELEMENTARY ZOOLOGY, <sup>2</sup> . . . . .		
(14.) PRACTICAL PHYSIOLOGY, . . . . .	{	During Courses of not less than Two and a half Months.
(15.) PRACTICAL PATHOLOGY, . . . . .		
(16.) MEDICAL JURISPRUDENCE and PUBLIC HEALTH, . . . . .		

<sup>1</sup> Certificates of attendance on Practical Anatomy must express not only the number of months engaged in dissection, but the names of the parts dissected, and the degree of care with which the dissections have been made. Students are recommended not to appear for Examination in Anatomy, with a view to a Degree, until they have dissected the human body at least once.

<sup>2</sup> For students commencing medical study after September 1899 certificates of attendance on Practical Physiology must bear that the course of instruction included (a) Practical Experimental Physiology, (b) Practical Chemical Physiology, and (c) Practical Histology, or separate certificates must be presented, covering each of these parts of the course.

Provided always in so far as regards the University of Edinburgh that—

(a) It is the duty of the Senatus to determine from time to time the number of meetings of which such Courses shall consist, and in what cases two half Courses shall be deemed equivalent to a full Course; and to report the determination to the University Court for its approval.

(b) It is the duty of the Professors and Lecturers to submit to the Senatus annually at the end of the Winter Session a scheme specifying what proportion of the Courses shall be devoted to Lectures, Practical Demonstrations, Examinations, and Tutorial Work respectively. The Senatus must transmit such scheme, with such observations as it may think fit to make thereon, to the University Court for its approval.

(c) The University Court will not grant or continue recognition to any institutions or teachers unless it is satisfied that their Courses of Instruction are equivalent to the Courses sanctioned in the Universities of Scotland.

5. The Candidate must have attended for at least three years the Medical and Surgical Practice either of the Royal Infirmary, Edinburgh, or of a General Hospital elsewhere, which accommodates not fewer than eighty patients, and possesses a distinct staff of Physicians and Surgeons, and is recognised for the purpose by the University Court.
6. The Candidate must have attended Clinical Surgery<sup>1</sup> during a Course or Courses extending over not less than nine months. These Courses may be conducted by the Professor of Clinical Surgery, or by Professors or Lecturers appointed for the purpose by the University Court, or by the Ordinary Surgeons of the Royal Infirmary, Edinburgh, or of a General Hospital defined and recognised as hereinbefore provided, and must consist of regular instruction at the bedside, along with Clinical Lectures.
7. The Candidate must have attended Clinical Medicine<sup>1</sup> during a Course or Courses extending over not less than nine months. These Courses may be conducted by Professors of the University, or by Lecturers appointed for the purpose by the University Court, or by the Ordinary Physicians of the Royal Infirmary, Edinburgh, or of a General Hospital defined and recognised as hereinbefore provided, and must consist of regular instruction at the bedside, along with Clinical Lectures.
8. The Candidate must have attended a course of instruction in Mental Diseases, of such duration, and so apportioned between lectures, demonstrations, and clinical instruction, as the Senatus, with the approval of the University Court, may from time to

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<sup>1</sup> Only open to Students holding the Hospital Ticket. Certificates of attendance must be countersigned by the Treasurer of the Royal Infirmary. Attendance at these Classes includes attendance at the Ward Cliniques as well as the Class Lectures.



time determine. [The course of instruction in Mental Diseases must have been given by the University Lecturer, or by a recognised Teacher, and must consist of not less than six Classroom meetings for lectures and demonstrations and ten meetings in the Wards of a recognised Asylum for the Insane.<sup>1</sup>]

9. The Candidate must have attended a Course of twenty-five meetings on Practical Pharmacy in a University or recognised School of Medicine, or have dispensed drugs for a period of three months in an Hospital or Dispensary, or the establishment of any chemist and druggist or pharmaceutical chemist of Great Britain, or any pharmaceutical chemist of Ireland, who is registered in the Books of the Pharmaceutical Society of Great Britain or of the Pharmaceutical Society of Ireland respectively.
10. The Candidate must have attended, for at least six months, by apprenticeship or otherwise, the out-practice of an Hospital, or the practice of a Dispensary, or of a Physician or Surgeon, or of a Member of the London or Dublin Society of Apothecaries. He must have acted as Clerk<sup>2</sup> in the Medical and Dresser<sup>2</sup> in the Surgical Wards of a Public Hospital; and must also have availed himself, to such an extent as may be required by the Senatus, with the approval of the University Court, of opportunities of studying, at an Hospital or Dispensary, *post-mortem* Examinations, Fevers, Diseases of Children, Ophthalmology, or such other special departments as may from time to time be determined. [The approved courses are :—  
*A.* (1) Post-Mortem Examinations<sup>3</sup> in a recognised Hospital for a period of at least three months, during which practical instruction is given in the methods of making Post-Mortem Examinations, and in framing Reports.<sup>1</sup> (2) A course of Clinical instruction in infective Fevers, given at not less than twelve meetings in the Wards of a recognised Hospital where Clinical instruction is given on cases of Infectious Diseases.<sup>1</sup> (3) A course of instruction in Diseases of the Eye, given by the University Lecturer, or by a recognised Teacher, at not less than twelve Class-room meetings and twelve meetings for Clinical instruction in the Wards of a recognised Hospital, or in the Wards of a Hospital, and in a Dispensary, both recognised for the purpose. The Course to include efficient practical instruction in the methods of Examining the Eye.<sup>1</sup> (4) A Course of Operative Surgery, conducted by the Professor of Surgery in the University, or by a recognised Teacher.  
*B.* Every Candidate shall also be required to attend any one of the three following courses :—(1) A course of

<sup>1</sup> Must be attended before the Candidate enters for the Final Examination.

<sup>2</sup> For six months. Must be members of the Class of Clinical Surgery, or of Clinical Medicine as the case may be. See also footnote 1, p. 360.

<sup>3</sup> See footnote 1, page 360.

Clinical instruction in the Diseases of Children, given by the University Lecturers, and by recognised Teachers in the Edinburgh Royal Hospital for Sick Children, or by a recognised Teacher or Teachers in a Hospital recognised for the purpose, which shall extend over a period of at least six weeks, and in addition to the opportunities for Surgical and for other Medical instruction afforded by the Hospital, shall include Clinical instruction in the Medical diseases of children, consisting of not less than four Class-room lectures, ten meetings for Clinical instruction in the Medical Wards, and four meetings in the Out-patient Department of the Hospital,<sup>1,2</sup> together with attendance at Post-Mortem Examinations.<sup>1,2</sup> (2) A course of instruction in diseases of the Larynx, Ear, and Nose, given by a University Lecturer,<sup>1,2</sup> or by a recognised Teacher, at not less than six Class-room meetings, and twelve meetings for Clinical instruction in the Wards of a recognised Hospital, or in the Wards of a Hospital and in a Dispensary, both recognised for the purpose.<sup>1,2</sup> (3) A course of clinical instruction in diseases of the Skin, given by a University Lecturer, or by a recognised teacher, at not less than Twenty meetings in the wards of a recognised Hospital, or in the wards of a Hospital and in a Dispensary both recognised for the purpose.<sup>1,2</sup>

11. The Candidate must have attended, under the superintendence of a registered Medical Practitioner, twelve cases of labour, or such additional number as the Senatus, with the sanction of the University Court, may from time to time determine; or have attended for three months the practice of a Lying-in Hospital, or of the Maternity Department of a General Hospital or other Public Charitable Institution, and have conducted personally six, or such an additional number of cases of labour as the Senatus, with the approval of the University Court, may from time to time determine.
12. The Candidate must have been properly instructed in Vaccination at a Public Vaccination Station, by a Public Vaccinator, authorised by the proper Government Authority to grant Certificates of Proficiency in Vaccination.<sup>3</sup>
13. No Candidate for a degree will be deemed to have attended a class as part of the Curriculum necessary for that degree who

<sup>1</sup> See footnote 1, page 360.

<sup>2</sup> See footnote 1, page 361.

<sup>3</sup> The Candidate must, when he enters for the Final Examination, produce a certificate from a Vaccine Department in an Hospital, Dispensary, or other public Institution recognised by the Local Government Board for instruction in Vaccination, to the effect that he has himself performed the operation successfully under the teacher's inspection; that he is familiar with the different stages of the vaccine vesicle, and with the method of preserving lymph, and is thoroughly informed in every necessary part of the subject. The recognised Vaccine Departments in Edinburgh are the Royal Public Dispensary, 21 West Richmond Street—*Vaccinator*, Dr Husband; the Western Dispensary, 90 Fountainbridge—*Vaccinator*, Dr J. B. Buist; and the New Town Dispensary, 17 Thistle Street—*Vaccinator*, Dr Cadell.

does not present a certificate bearing not only that he has given regular attendance, but also that he has duly performed the work of the class.

VIII. With respect to the Places and Institutions at which the studies of the Candidate may be prosecuted, the following Regulations have effect :—

1. Two of the five years of medical study must be spent in the University of Edinburgh, each year of study including always the attendances specified in section VII., sub-section 2.
2. The remaining three years may be spent in any University of the United Kingdom, or in any Indian, Colonial, or Foreign University recognised for the purpose by the University Court, or in such Medical Schools or under such Teachers as may be recognised for the purpose by the University Court, each year of study during the first four years including always the attendances specified in section VII., sub-section 2.<sup>1</sup>
3. Of the subjects of study specified in section VII., sub-section 4, not less than eight must be taken in the University of Edinburgh, or (subject always to the provisions as to attendance contained in the immediately preceding sub-sections) in some other University of the United Kingdom, or in some Foreign or Colonial University entitled to confer the Degree of Doctor of Medicine, recognised for the purpose by the University Court, or in a College incorporated with, or affiliated to a University, entitled to confer the Degree of Doctor of Medicine, recognised for the purpose by the University Court : Provided always that where in any of said subjects of study two or more Courses are required, the taking of one of those Courses will constitute a taking of the subject for the purpose of this sub-section.
4. The remainder of such subjects of study may (subject always as aforesaid) be taken in such Medical Schools or under such Teachers as may be recognised for the purpose by the University Court.
5. All Candidates, not Matriculated Students of the University, availing themselves of the permission to attend the Lectures of Extra-Academical Teachers in Edinburgh, must, at the commencement of each year of such attendance, enrol their names in a book to be kept in the University for that purpose, paying a Fee of the same amount as the Matriculation Fee paid by Students of the University, and having, in respect of such payment, a right to the use of the Library of the University.
6. The Fee for attendance, for purposes of graduation, on the Courses of instruction of recognised Extra-Academical Teachers

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<sup>1</sup> Universities, &c., recognised under this sub-section.—University College, Dundee, and Royal Infirmary, Dundee, and all Indian, Colonial, or foreign Universities whose Courses of Instruction were accepted for purposes of graduation in Medicine under the old Ordinances.

in Edinburgh, must be not less than the amount exigible for the corresponding Courses in the University.

*[The fee must be paid at the commencement of the Course, and the Certificate must state the amount of the fee paid.]*

7. The University Court will not recognise as qualifying for examination in any of the subjects specified in section VII., sub-section 4, the class of any teacher who is at the time a teacher of more than one of the said subjects, except in those cases where Professors in the University are at liberty to teach the two subjects: Provided always that a Professor or other Teacher in any endowed public College or Institution, who, by the terms of his appointment, is required to teach more than one subject of Medical Study therein, may be recognised under sub-section 2 of this section as a Teacher of any one of the subjects which he teaches.
8. A Teacher, attendance on whose course of instruction, before the date of the approval of these Regulations by Her Majesty in Council, had been recognised for the purposes of graduation in the University, is not required to obtain a new recognition from the University Court; and attendance on the course of instruction of every such Teacher may continue to be recognised as heretofore.
9. It is in the power of the University Court, if it sees cause, at any time to withdraw or suspend any recognition which it may have granted.

IX. In the University of Edinburgh it is the duty of the Professors of the subjects specified in section VII., sub-section 4 hereof (except Practical Anatomy and such other subjects as the Senatus, with the approval of the University Court, may from time to time determine), so to conduct the Courses that Students may receive instruction sufficient for graduation in any one of the said subjects by attendance on one Course of five or six months, or of two and a half or three months as the case may be.

X. If any Candidate, before presenting himself for his Preliminary Examination, has attended in any University of the United Kingdom, or in any University or Institution specially approved, or under any Teacher specially recognised for the purpose by the University Court, a Course or Courses of instruction in Physics, Chemistry, Botany, or Zoology, equivalent in the judgment of the Senatus to the qualifying Course in the same subject in the University of Edinburgh, such attendance will (notwithstanding anything hereinbefore stipulated) be held as entitling him to be examined in these subjects; and if the Candidate has attended such Course or Courses in each of the said subjects, he will be held to have completed his first year of Medical Study: Provided always that the evidence of such attendance at such equivalent Course or Courses must be presented to the Senatus at the time when the Candidate presents himself for his Preliminary

Examination; and the Senatus will, if satisfied, grant a certificate to that effect.

By a Supplementary Ordinance of the Commissioners, the provisions of this section shall not have effect except where the University Court shall allow the application after a report by the Senatus, setting forth special grounds therefor.

#### PROFESSIONAL EXAMINATION FOR M.B. AND Ch.B.

XI. Each Candidate is examined, both in writing and orally, and also clinically where the nature of the subject admits, in the following divisions, viz. :—*First*, in Botany, Zoology, Physics, and Chemistry; *Second*, in Anatomy, Physiology, and Materia Medica and Therapeutics; *Third*, in Pathology, and Medical Jurisprudence and Public Health; *Fourth*, in Surgery and Clinical Surgery, Practice of Medicine and Clinical Medicine, and Midwifery.

In subjects which admit of practical instruction, the examination will be such as to test the practical acquirements of the Candidate.

If a Candidate for the Degrees of M.B. and Ch.B. have completed, in a University of the United Kingdom, a course of study and passed an examination in Botany, Zoology, Physics, or Chemistry qualifying for a Degree in Science or in Arts, he shall be held to have passed the examinations in such subject or subjects.

If a Candidate have obtained a Degree in Science or in Arts in any University other than a University of the United Kingdom, granted in either case after a course of study and an examination in Botany, Zoology, Physics, or Chemistry, it shall be in the power of the University Court to exempt such Candidate from the examinations in such subject or subjects; provided that the course of study and the standard of examination in each case are satisfactory in the judgment of the Senatus Academicus.<sup>1</sup>

XII. Candidates who profess themselves ready to submit to an examination in the subjects comprised in the first division, viz., Botany, Zoology, Physics, and Chemistry, may be admitted to examination in all or any two of these subjects at any examination held after they have attended a full Course in each of the subjects professed.

XIII. Candidates who have passed their examinations in the subjects comprised in the first division may be admitted to examination in the second division at the end of the third winter session.

Provided that Candidates who so desire may postpone their examination in Materia Medica and Therapeutics until the close of the summer session following.

XIV. Candidates who have passed their examinations in the subjects comprised in the first and second divisions may be admitted to examination in the third division at the end of the fourth winter session.

Provided that Candidates who so desire may postpone their examina-

<sup>1</sup> Universities recognised under this section—University of New Zealand and University of Wisconsin.



tion in Medical Jurisprudence and Public Health until the close of the summer session following.

XV. Candidates who have passed their examinations in the subjects comprised in the first, second, and third divisions may be admitted to examination in the fourth or final division, when they have completed the fifth year of study.

XVI. If any Candidate at these examinations be found unqualified in one or more subjects, he will not again be admitted to examination unless he has pursued his medical studies for such time, and subject to such conditions, as the Faculty of Medicine may prescribe.<sup>1</sup>

XVII. If any Candidate at these examinations be found to have passed in one or more subjects with sufficient merit, he will not be liable to re-examination in such subject or subjects, although he may have been found unqualified in a subject or subjects comprised in the same division as hereinbefore specified.

XVIII. Every Candidate must deliver,<sup>2</sup> on or before such day as the Senatus may from time to time determine, to the Dean of the Faculty of Medicine, a declaration, in his own handwriting, that he has completed his twenty-first year, or that he will have completed it on or before the day of graduation, and that he will not be, on the day of graduation, under articles of apprenticeship to any surgeon or other master.

XIX. After the Candidate has satisfied the Examiners, the Dean of the Faculty of Medicine lays the proceedings before the Senatus, by whose authority the Candidate will be admitted, on such day as the Senatus may from time to time appoint, to the Degrees of M.B. and Ch.B., on payment of the required fees.

XX. Candidates for graduation must produce evidence of their having conformed to the Regulations which were in force at the time they commenced their Medical Studies.

#### PROFESSIONAL EXAMINATION FOR M.D.<sup>3</sup>

XXI. 1. Subject to the conditions hereinafter specified, the Degree of M.D. is conferred on any Candidate who has obtained the Degrees of M.B. and Ch.B., and is of the age of twenty-four years or upwards, and has produced a certificate of having been engaged, subsequently to having received the Degrees of

<sup>1</sup> Satisfactory Certificates must be produced when Candidates re-enter for Examination, the fees paid to Extra-Academical teachers in Edinburgh for re-attendances must be of the same amount as those payable for the corresponding classes in the University, and the Certificates of attendance must show the amount of the fees paid.

<sup>2</sup> On or before the date for lodging Certificates, &c., for the fourth division of the Examinations. See page 332. A declaration is appended to the Schedule for the Final Examination, which must be attested and signed before the Schedule is lodged.

<sup>3</sup> Candidates, settled for a period of years in foreign parts, who have complied with all the regulations for the Degree of M.D. or for the Degree of Ch.M., but who cannot appear personally to receive the Degree, may, on satisfying the Senatus to that effect, by production of sufficient official testimonials, have the Degree conferred on them in absence.



M.B. and Ch.B., for at least one year in attendance in the Medical Wards of an Hospital, or in scientific work bearing directly on his profession, such as is conducted in the Research Laboratories of the University, or in the Military or Naval Medical Services, or for at least two years in Practice other than Practice restricted to Surgery.

2. Each Candidate for the Degree of M.D. is required to pass an examination in Clinical Medicine and in such of its special departments as may from time to time be determined; and he may present himself for examination in Clinical Medicine at any period of examination subsequent to one year after he has received the Degrees of Bachelor of Medicine and Bachelor of Surgery.

This Examination in Clinical Medicine for each Candidate consists of a written Report and Commentary, with any oral questions that may be considered desirable, upon at least three Medical cases. In the selection of the cases, special regard should be given to the opportunities they afford for testing the Candidate, not only in the ordinary methods of clinical investigation, but also in the more advanced methods requiring practical knowledge in the applications of the ophthalmoscope and laryngoscope, in the chemical and microscopical examination of excreta, the quantitative determination and microscopic characters of the chief constituents of blood possessing clinical importance, the recording by instruments of the condition of the circulation, the applications of electricity, &c. : Provided always that one of the three cases on which a Candidate shall be examined may be the case of a patient suffering from a Gynecological or Mental Disease, or Disease of Childhood, if the Candidate on entering his name for the Examination declare a wish to this effect. So far as possible, the Examination in these Departments will be on a standard equal to that of the Examination on the Medical cases.

3. Each Candidate for the Degree of M.D. must submit for the approval of the Faculty of Medicine a Thesis, on any branch of knowledge comprised in the second, third, or fourth examinations for the Degrees of M.B. and Ch.B., which he may have made a subject of study after having received those Degrees, excepting subjects which are exclusively Surgical; and the Thesis, accompanied by a declaration signed by the Candidate, that the work has been done and the Thesis composed by himself, must be lodged with the Dean of the Faculty of Medicine on or before a date to be fixed by the Senatus.<sup>1</sup>

<sup>1</sup> Candidates are required to write their Theses on faint lined paper, 11 in. by 8½ in. with margins 1½ in. at each side. The Thesis is to be written on one side of each leaf only, and it must be lodged on or before 30th April of the year in which the Candidate proposes to graduate. See also footnotes, pages 381 and 383.

4. A Bachelor of Medicine and Bachelor of Surgery, who produces to the Senatus satisfactory evidence of his intention of entering within twelve months after obtaining such degrees on the practice of his profession in a British Possession or Colony, or in a foreign Country, may, under Regulations to be framed by the Senatus, be admitted to the examination in Clinical Medicine at any period of examination after he has received such Degrees ; but the Degree of M.D. will not be conferred on him unless he produces a certificate that, subsequently to having received the Degrees of M.B. and Ch.B., he has been engaged for at least one year in attendance in the Medical Wards of an Hospital, or in scientific work bearing directly on his profession, such as is conducted in the Research Laboratories of the University, or in the Naval or Military Medical Services, or for at least two years in Practice which has not been exclusively surgical, and unless his Thesis, in the judgment of the Faculty of Medicine, is of exceptional merit.

Bachelors of Medicine and Masters of Surgery of the University of Edinburgh, who have graduated under the regulations in force before 5th August 1892, may proceed to the Degree of Doctor of Medicine under the provisions of this section in the same manner as if they had graduated under the new Regulations.

#### PROFESSIONAL EXAMINATION FOR CH.M.<sup>1</sup>

- XXII. 1. Subject to the conditions hereinafter specified the Degree of Ch.M. will be conferred on any Candidate who has obtained the Degrees of M.B. and Ch.B. of the University, and is of the age of twenty-four years or upwards, and has produced a certificate of having been engaged, subsequently to his having received the Degrees of M.B. and Ch.B., for at least one year in attendance in the Surgical Wards of an Hospital, or in scientific work bearing directly on his profession, such as is conducted in the Research Laboratories of the University, or in the Military or Naval Medical Services, or for at least two years in practice other than practice restricted to Medicine.
2. Each Candidate for the Degree of Ch.M. is required to pass an examination in the following subjects :—Surgical Anatomy, Operations upon the dead body, and Clinical Surgery, and in such of the special departments of Clinical Surgery as may from time to time be determined ; and he may present himself for examination in these subjects at any period of examination subsequent to one year after he has received the Degrees of M.B. and Ch.B.

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<sup>1</sup> See footnote 3, page 366.

The Examination in Clinical Surgery for the Degree of Master of Surgery should for each Candidate consist of a written Report and Commentary, with any oral questions that may be considered desirable, on at least three Surgical cases: Provided that one of the three Surgical cases on which a Candidate shall be examined may be the case of a patient suffering from an Eye, Throat, Ear, or Gynecological Disease, if the Candidate on entering his name for the Examination declare a wish to this effect. So far as possible, the Examination in these Departments shall be on a standard equal to that of the Examination on the Surgical cases. The Candidates shall also be examined in Surgical Anatomy and Operations upon the dead body.

3. Each Candidate for the Degree of Ch.M. must submit, for the approval of the Faculty of Medicine, a Thesis on any branch of knowledge comprised in the second, third, or fourth Examinations for the Degrees of M.B. and Ch.B., which he may have made a subject of study after having received those Degrees, excepting subjects that are exclusively medical; and the Thesis, accompanied by a declaration signed by the Candidate that the work has been done and the Thesis composed by himself, must be lodged with the Dean of the Faculty of Medicine on or before a date to be fixed by the Senatus.<sup>1</sup>
4. A Bachelor of Medicine and Bachelor of Surgery who produces to the Senatus satisfactory evidence of his intention of entering within twelve months after obtaining such Degrees on the practice of his profession in a British Possession or Colony, or in a foreign Country, may, under Regulations to be framed by the Senatus, be admitted to examination in the subjects specified in sub-section 2 of this section at any period of examination after he has received such Degrees; but the Degree of Ch.M. shall not be conferred on him unless he produces a certificate that, subsequently to having received the Degrees of M.B. and Ch.B., he has been engaged for at least one year in attendance in the Surgical Wards of an Hospital, or in scientific work bearing directly on his profession, such as is conducted in the Research Laboratories of the University, or in the Naval or Military Medical Services, or for at least two years in Practice which has not been exclusively medical, and unless his Thesis in the judgment of the Faculty of Medicine is of exceptional merit.

#### REGULATIONS FOR GRADUATION OF WOMEN.

1. It shall be in the power of the University Court to admit Women to graduation.
2. The conditions for graduation shall be the same for women as for men, subject to the following modifications, which shall have effect

See footnote 3, page 366, and footnote 1, page 367.

until provision is made for the instruction of women in all the subjects qualifying for graduation, in which provision is made for the instruction of men.

3. Section VIII. of Regulations for Degrees in Medicine shall not be applicable to the graduation of women in Medicine.

So long as within the Faculty provision is not made for the instruction of women in any subject qualifying for graduation in which provision is made for the instruction of men, it shall be in the power of the University Court to admit to graduation women who have received the requisite instruction in that subject in any University of the United Kingdom, or in any Indian, Colonial, or Foreign University recognised for the purpose by the University Court, or in such Medical Schools or under such teachers as may be recognised for the purpose by the University Court : Provided always that every Candidate for graduation shall produce evidence of having satisfied the conditions laid down in the Regulations for Degrees in Medicine with respect to the Preliminary Examination, and shall be examined in all the subjects necessary for graduation by the Examiners of the University.

4. So soon as within the University provision is made for the instruction of women in all subjects qualifying for graduation in which provision is made for the instruction of men, the conditions for the graduation of women shall be the same as the conditions for the graduation of men.

5. In the case of women who began their studies before these Regulations came into operation, it shall be competent to the University Court to admit to graduation in Medicine women who may complete their medical studies in accordance either with the Regulations for graduation hitherto in force, or with the present Regulations ; declaring that as regards their studies prior to the date at which these Regulations came into operation (1st October 1892), such women may have obtained their instruction in any classes which the University Court may accept for the purpose, and providing that before beginning their medical studies they shall have passed a Preliminary Examination which the University Court shall consider to have been adequate.

6. Women who attend classes in the University must matriculate, paying a fee of the same amount as that exigible for other students. Women, who are Candidates for graduation but not matriculated students, and who may attend classes in Edinburgh under the provisions above set forth, must, at the commencement of each year of such attendance, enrol their names in a book to be kept in the University for that purpose, paying a Fee of the same amount as the Matriculation Fee paid by students of the University [and having, in respect of such payment, a right to the use of the Library of the University].

#### ADDITIONAL REGULATIONS OF THE UNIVERSITY COURT.

When granting recognition to Medical Schools or Teachers for the medical instruction of women, the University Court requires that the classes shall not be mixed classes, except on special cause shown.

The University Court have recognised the Medical College for Women, 30 Chambers Street, Edinburgh, as a Medical School whose courses of instruction qualify for graduation in Medicine, subject to the following conditions:—Provided 1. That every Candidate for graduation shall produce evidence of having satisfied the conditions with respect to the Preliminary Examination and Registration as Medical Students, and shall be examined in all the subjects necessary for graduation by the Examiners of the University in which she takes her degree. 2. . . . 3. . . . 4. . . . 5. That the aforesaid School make application annually to the University Court for a continuation of the recognition thus granted, and at the same time report to the Court on the administrative arrangements and discipline of the School. 6. That schedules of Class Returns, to be furnished by the Court, and giving the designation of the class or course, number of students, number of meetings, &c., be filled up by each of the teachers of the qualifying classes or courses of instruction in the aforesaid Schools, as in the case of the recognised Lecturers on Medicine, and forwarded to the Secretary of the Court not later than 1st July in each year. 7. That all advertisements referring to the recognition of the aforesaid School, or to the qualifying classes or courses of instruction to be given at any time in connection with this School, shall, before publication, be submitted to the Secretary of Senatus of the University, and receive his approval.

#### DATES OF ENTERING FOR PRELIMINARY EXAMINATION AND FOR PAYMENT OF FEES.

Each Candidate is required to pay a fee of 10s. 6d. for each appearance at the Preliminary Examination.

Candidates for Examination may obtain Schedules at the Matriculation Office, University (Old) Buildings, on and after 10th September 1900, and on and after 15th February 1901. The Schedules must be completed and returned along with the fees not later than 19th September 1900 and 1st March 1901 for the autumn and spring Examinations respectively.

Candidates may pay the fees personally or transmit them to T. Gilbert, University, Edinburgh, by *Post Office* or *Postal Orders*, or by *Bank Drafts* crossed Union Bank of Scotland (Hunter Square Branch), Edinburgh, but not by cheques on private accounts. When names are not entered and Fees paid on or before the stated dates, an additional or late entry fee of 10s. must be paid before the Candidate can be admitted to Examination. A Candidate is not held to have entered until his Schedule is lodged, the Fee paid, and a Pass to the Examination obtained.



## TIME-TABLE FOR PRELIMINARY EXAMINATIONS FOR 1900-1901.

		Medical Preliminary Examinations.	Arts and Science Preliminary Examinations.
1900.			
Sept. 29	Sat.	English, 9-12 Greek, 3-6 <sup>2</sup> Do., 3-5 <sup>1</sup>	English, 9-11, 12-2 Lower Greek, 3-6
Oct. 1	Mon.	Latin, 9-12 <sup>2</sup> Mathematics, 2-5 <sup>2</sup>	Lower Latin, 9-12 Lower Mathematics, 2-5
„ 2	Tu.	French, 3-6 Do., 3-5 <sup>1</sup>	Higher Latin, 9-11, 12-2 French, 1st paper, 3-4.30
„ 3	Wed.	German, 3-6 Do., 3-5 <sup>1</sup>	Higher Greek, 9-11, 12-2 German, 1st paper, 3-4.30
„ 4	Th.	Higher Mathematics, <sup>1</sup> 9-11, 12-2.	Intermediate and Higher Mathematics, 9-11, 12-2
„ 5	Fri.	Moral Philosophy, 9-11 <sup>1</sup> Mechanics, 1-4 <sup>1 3</sup>	French, 2nd paper, 3-5 German, 2nd paper, 9-11
„ 6	Sat.	Natural Philosophy, 9-11 <sup>1</sup> Logic, 2-4 <sup>1</sup>	Dynamics, 1-4
1901.			
Mar. 30	Sat.	English, 9-12 Greek, 3-6 Do., 3-5 <sup>1</sup>	English, 9-11, 12-2 Lower Greek, 3-6
April 1	Mon.	Latin, 9-12 Mathematics, 2-5	Lower Latin, 9-12 Lower Mathematics, 2-5
„ 2	Tu.	French, 3-6 Do., 3-5 <sup>1</sup>	Higher Latin, 9-11, 12-2 French, 1st paper, 3-4.30
„ 3	Wed.	German, 3-6 Do., 3-5 <sup>1</sup>	Higher Greek, 9-11, 12-2 German, 1st paper, 3-4.30
„ 4	Th.	Higher Mathematics, <sup>1</sup> 9-11, 12-2	Intermediate and Higher Mathematics, 9-11, 12-2
„ 5	Fri.	Moral Philosophy, 9-11 <sup>1</sup> Mechanics, 1-4 <sup>1 3</sup>	French, 2nd paper, 3-5 German, 2nd paper, 9-11
„ 6	Sat.	Natural Philosophy, 9-11 <sup>1</sup> Logic, 2-4 <sup>1</sup>	Dynamics, 1-4

<sup>1</sup> For Students completing the Examination under the Old Regulations.<sup>2</sup> Same as the Lower Standard Paper for Degrees in Arts and Science.<sup>3</sup> Paper same as in Dynamics for Degrees in Arts and Science.



MINIMUM CURRICULUM FOR DEGREES OF M.B. AND Ch.B., WITH SUGGESTED ORDER OF STUDY AND EXAMINATION.

Before beginning Medical Study, students must pass the Preliminary Examination in General Education, either at the University, or elsewhere, according to the requirements of the University. Immediately after entering on Medical Study, students must register in the books of one or other of the Registrars of the General Medical Council. The Registrar for Scotland is Mr James Robertson, 48 George Square, Edinburgh, from whom forms of Registration and all information on the subject may be obtained.

Medical Study may be begun either in October (Winter Session) or May (Summer Session), and must be engaged in for at least five years.

*A.—For Students beginning in Winter.*

FIRST WINTER SESSION.

Chemistry.

Practical Chemistry.

Physics.<sup>1</sup>

Anatomy.

*Examination in Chemistry, including Practical Chemistry, and Physics.*

FIRST SUMMER SESSION.

Botany.

Zoology.

*Examination in Elementary Botany and Elementary Zoology.*

SECOND WINTER SESSION.

Surgery.

Practical Anatomy.

Physiology.

Practical Physiology.

Hospital and Clinical Surgery *after Christmas.*

SECOND SUMMER SESSION.

Practical Materia Medica.

Hospital and Clinical Surgery.

Practical Physiology.

Practical Anatomy.

THIRD WINTER SESSION.

Anatomical Demonstrations.

Materia Medica.

Hospital and Clinical Surgery *up to Christmas.*

Practical Anatomy.

*Examination in Anatomy, Physiology, and Materia Medica and Therapeutics. (The last may be postponed to the end of the following summer.)*

THIRD SUMMER SESSION.

Forensic Medicine.

Public Health.

Practical Pathology.

Hospital and Clinical Medicine.

*Examination in Materia Medica and Therapeutics (if not previously taken).*

FOURTH WINTER SESSION.

Midwifery.

Pathology.

Hospital and Clinical Medicine.

Post-Mortems.

Medicine.

Dispensary.

*Examination in Pathology and Forensic Medicine and Public*

<sup>1</sup> Three months' course.

*Health. (The latter may be postponed to the end of the following Summer.)*

FOURTH SUMMER SESSION.

Ophthalmology.  
Diseases of Children; or  
Larynx, Ear, and Nose;  
or Skin.  
Hospital and Clinical Medi-  
cine.  
Dispensary.  
Mental Diseases.

FIFTH WINTER SESSION.

Fevers.  
Hospital and Clinical Medi-  
cine.  
Vaccination.  
Practical Midwifery.  
SPRING VACATION AND FIFTH  
SUMMER SESSION.  
Operative Surgery.  
*Examination in Surgery and  
Clinical Surgery, Medicine  
and Clinical Medicine, and  
Midwifery.*

B.—For Students beginning in Summer.

FIRST SUMMER SESSION.

Botany.  
Zoology.  
*Examination in Elementary  
Botany and Zoology.*

FIRST WINTER SESSION.

Chemistry.  
Practical Chemistry.  
Physics.<sup>1</sup>  
Anatomy.  
*Examination in Chemistry, in-  
cluding Practical Chemistry  
and Physics.*

SECOND SUMMER SESSION.

Practical Anatomy.  
Practical Physiology (His-  
tology).

SECOND WINTER SESSION.

Surgery.  
Practical Anatomy.  
Practical Physiology.  
Hospital and Clinical Surgery  
*after Christmas.*  
Physiology.

THIRD SUMMER SESSION.

Practical Materia Medica.  
Practical Anatomy.  
Hospital and Clinical Surgery.

THIRD WINTER SESSION.

Practical Anatomy.  
Anatomical Demonstrations.  
Hospital and Clinical Surgery  
*up to Christmas.*  
Materia Medica.  
*Examination in Anatomy,  
Physiology, and Materia Med-  
ica and Therapeutics. (The  
last may be postponed to  
the end of the following  
Summer.)*

FOURTH SUMMER SESSION.

Forensic Medicine.  
Public Health.  
Practical Pathology.  
Hospital and Clinical Medi-  
cine.  
Dispensary.

FOURTH WINTER SESSION.

Midwifery.  
Pathology.  
Hospital and Clinical Medi-  
cine.  
Post-mortems.  
Medicine.  
Dispensary.

<sup>1</sup> Three months' course.

*Examination in Pathology, and Forensic Medicine and Public Health. (The latter may be postponed to the end of the following Summer Session.)*

**FIFTH SUMMER SESSION.**

Operative Surgery.  
Ophthalmology.  
Diseases of Children ; or,  
Larynx, Ear, and Nose ; or  
Skin.

Hospital and Clinical Medicine.

Mental Diseases.

**FIFTH WINTER SESSION.**

Fevers.

Hospital and Clinical Medicine.

Vaccination.

Practical Midwifery.

*Examination in Surgery and Clinical Surgery, Medicine and Clinical Medicine, and Midwifery.*

## REGULATIONS AS TO CLASS EXAMINATIONS.

With a view to promote the Educational interests of the students during the time they are occupied with the respective subjects in the Classes, the Senatus recommend :—

1. That there should be at least two Special Class-Examinations in the Classes in the Faculty of Medicine during each Session, conducted by means of questions and written answers, without aid from books or notes.

2. That in the event of a student gaining 75 per cent. or more of the available marks in any department, he shall obtain a Certificate in the First Class of Honours.

3. That in the event of a student gaining 50 per cent. or more, but less than 75 per cent., of the available marks in any department, he shall receive a Certificate in the Second Class of Honours.

University Bronze Medals are also given for Competitive Class Examinations.

## CERTIFICATES OF ATTENDANCE ON CLASSES IN THE FACULTY OF MEDICINE.

The Senatus Academicus have resolved that the Certificates of Attendance to be granted to students in the Faculty of Medicine shall be regulated in the following manner :—

Each Professor shall ascertain the presence of his pupils at least twenty-six times in a Course of six months' duration, and thirteen times in a Course of three months' duration.

Those who have been absent twelve or more times in a six months' Course, or six or more times in a three months' Course, or have not duly

performed the work of the Class, including any Examinations that may be held, shall not be entitled to any Certificate.

The following is the form of Certificate which must be adopted in all cases :—

“I certify that Mr \_\_\_\_\_ attended my Course of Instruction on \_\_\_\_\_ during the Session \_\_\_\_\_; that he was present on \_\_\_\_\_ of the \_\_\_\_\_ occasions on which attendance was ascertained; and that he duly performed the work of the class.”

Exceptions will be admitted in the case of those who may be absent from sickness or other unavoidable causes, the particulars of which must be stated to the Professor in writing, accompanied with certificates. All excuses for non-attendance must be given in immediately upon the student returning to his class. If any student shall have been absent for six weeks or upwards in a Course of six months, or for three weeks in a Course of three months (whatever the cause of absence may be), his case must be transmitted to the Dean of the Faculty for the decision of the Faculty.

Whenever the student's cause for absence shall be admitted by the Professor or by the Faculty, the Certificate shall bear that he “attended,” and shall state the amount of the irregularity and the nature of the excuse.

## FIRST PROFESSIONAL EXAMINATION.

The Faculty of Medicine have resolved that the written and oral examinations on Chemistry, Elementary Botany, Elementary Zoology, and Physics shall be restricted in the following manner :—

1. *Chemistry*.—Chemical changes as distinguished from physical changes. Elements; compounds; mixtures. Laws of chemical combination by weight and by volume. The atomic theory. Atoms; molecules. Avogadro's Hypothesis. Molecular weights of gaseous and volatile substances. Atomic weights. Law of Dulong and Petit. Chemical Notation—Symbols; formulæ; equations. Simple chemical calculations.

The non-metallic elements and their chief compounds; especially the compounds of oxygen, of hydrogen, and of chlorine with the other non-metals. The more important inorganic acids. The atmosphere. Combustion. Oxidation and reduction.

The following metallic elements and their chief compounds; especially those with oxygen, with chlorine, and with sulphur: Gold, platinum, silver, mercury, lead, antimony, tin, copper, bismuth, zinc, cadmium, iron, aluminium, chromium, manganese, barium, strontium, calcium, magnesium, potassium, sodium.

The following salts: the ammonium salts; the more important sulphates, sulphites, thiosulphates, nitrates, nitrites, carbonates, bromides, iodides, iodates, phosphates, borates, silicates.

The relations of bases, acids, and salts. Electrolysis. Quantivalence. The periodic law.

The metallurgy of silver, mercury, copper, lead, tin, zinc, iron (including cast-iron and steel). Alloys, such as brass, bronze, solder, type-metal. Amalgams.

The manufacture of aluminium, magnesium, potassium, sodium, glass, porcelain, mortar, gunpowder, sulphuric acid, sodium carbonate and bicarbonate, caustic soda, bleaching powder and chlorates, white lead.

Classification of Carbon Compounds. Marsh Gas and its Homologues. Chloroform. Methyl and Ethyl Alcohols and Ethers. Substituted ammonias and ammonium salts. Formic and Acetic Acids, Aldehyde, Acetone, Chloral, Olefiant Gas, Acetylene, Oxalic Acid, Lactic Acid. Tartaric Acid, Citric Acid. Fats and Oils, Saponification, Glycerine. Cellulose, Sugars, Starch. Distillation of Wood and of Coal. Benzene, Benzoic Acid, Phenol, Salicylic Acid, Oil of Bitter Almonds. Hydrocyanic Acid, Cyanides, Cyanates, Thiocyanates, Urea, Uric Acid.

Simple Qualitative Analysis. The examination in this is conducted practically. Candidates are required to examine unknown *single salts* for both metallic and salt radicals, as contained in the following lists:—

Silver, Mercurous, Mercuric, Cupric, Lead, Stannous, Cadmium, Bismuth, Antimony (*Tartar Emetic* may be given), Arsenious, Zinc, Manganous, Ferrous, Ferric, Chromic, Aluminium, Calcium, Barium, Strontium, Magnesium, Ammonium, Sodium, Potassium.

Carbonate, Sulphite, Thiosulphate, Sulphide, Hypochlorite (Bleaching solution), Nitrite, Chloride, Bromide, Iodide, Cyanide, Sulphate, Chromate, Orthophosphate, Arseniate, Arsenite, Borate, Oxalate, Nitrate, Chlorate, Acetate.

At the examination, Candidates are supplied with the following reagents, &c.:—Acetic Acid, dilute Hydrochloric Acid, dilute Nitric Acid, Sulphuric Acid, dilute Sulphuric Acid, Alcohol, Iodine, Ammonia, Ammonium Carbonate, Ammonium Chloride, Ammonium Oxalate, Ammonium Sulphide, Barium Nitrate, Bleaching Powder, Calcium Chloride, Calcium Hydrate, Calcium Sulphate, Cobaltous Nitrate, Cupric Sulphate, Ferric Chloride, Ferrous Sulphate, Lead Acetate, Magnesium Sulphate, Mercuric Chloride, Potassium Carbonate, Potassium Chromate, Potassium Ferricyanide, Potassium Ferrocyanide, Potassium Hydrate, Potassium Iodide, Silver Nitrate, Sodium Bitartrate, Sodium Phosphate, Sodium Sulphite, Stannous Chloride, Sulphuretted Hydrogen. *Solids*—Manganese Dioxide, Sodium Carbonate, Borax, Sulphur, Zinc, Copper.

Test papers:—Blue Litmus, Red Litmus, Plain, Starch, Turmeric. Bunsen Burner, Test Tubes.

2. *Elementary Botany*.—The characteristic features of the following groups and classes of the vegetable kingdom :—

Thallophyta [Schizophyta, Algæ, Fungi]; Muscinæ [Hepaticæ, Musci]; Pteridophyta [Filicineæ, Equisetineæ, Lycopodineæ]; Phanerogamæ [Gymnospermæ, Angiospermæ (Monocotyledones, Dicotyledones)].

The fundamental facts and principles of Organography and Physiology. The characters of plants belonging to the following natural orders of Phanerogamæ :—Coniferæ, Gramineæ, Orchideæ, Liliaceæ, Urticaceæ, Labiatæ, Compositæ, Umbelliferæ, Rosaceæ, Leguminosæ, Cruciferæ, Ranunculaceæ.

3. *Elementary Zoology*.—An elementary knowledge of the Protozoa, Cœlenterata, Echinodermata, Annelida, Arthropoda, and Mollusca. A general knowledge of the structure and habits of the Pisces, Amphibia, Reptilia and Sauropsida, and of the structure, habits, and distribution of the Mammalia. The fundamental facts as to (1) the structure, &c., of the cell, (2) Sexual and Asexual Reproduction, (3) Heredity and Variation, (4) Maturation, Fertilisation, and Segmentation of the Ovum, (5) the Development of a Mammal, and (6) Parasitism and Degeneration.

4. *Physics*.—(a) Properties of Matter—including Inertia, Gravitation, Molecular Forces, &c.

(b) Abstract Dynamics—including Kinematics and Newton's Laws of Motion, with their consequences as regards Statics and Kinetics of Solid, Liquid, and Gaseous Bodies, with the Physical Measurement of Time.

(c) Sound and Wave-propagation in general, Intensity, Pitch and Quality of Musical Sounds, Harmonics, Concorde, &c.

(d) Heat, its Nature, Effects, Measurement, Transference and Transformations—Measurement of Temperature and of absolute Temperature, Thermodynamics.

(e) Light (1), Geometrical Optics, Speed of Light, Laws of Reflection and Refraction, Construction and Effects of Mirrors, Prisms, Lenses, and Microscopes, Images, Conditions of Distinct Vision. (2) Physical Optics—Interference, Dispersion, Diffraction, Double Refraction, Polarisation, Spectrum Analysis.

(f) Electricity, including Frictional and Voltaic Electricity, Thermo- and Magneto-Electricity, Electro-Dynamics and Magnetism, with their practical applications. Measurements of Potential, Electromotive Force, Current, &c., Batteries, Dynamos, Electrometers, Galvanometers, Voltameters, &c.

## HONOURS AT PROFESSIONAL EXAMINATIONS.

Candidates who have displayed special merit at any of the Professional Examinations will be announced as having passed that Examination "with distinction."



Candidates who have displayed special merit at each of the Professional Examinations will be announced, at the time of the Graduation, as having obtained **FIRST** or **SECOND CLASS HONOURS**, according to the merit that has been displayed.

## SPONSIO ACADEMICA FOR GRADUATES IN MEDICINE.

Ego Doctoratus in Arte Medica titulo jam donandus, sancte coram Deo cordium scrutatore, spondeo, me in omni grati animi officio erga Universitatem Academicam Edinburgensem ad extremum vitæ halitum perseveraturum.

Tum porro Artem Medicam caute, caste, probeque exercitaturum, et quoad potero, omnia ad ægrotorum corporum salutem conducentia cum fide procuraturum. Quæ, denique, inter medendum visa vel audita sileri conveniat, non sine gravi causa vulgaturum.

Ita præsens spondenti adsit Numen.

## FEES FOR EXAMINATIONS.

### FEES FOR M.B. AND CH.B.

Fee for the First Division of the Examination, viz., Botany, Zoology, Physics, and Chemistry . . .	£6 6 0
<i>or</i>	
For any two of the subjects . . .	£3 3 0
For the other two subjects . . .	3 3 0
For the Second Division, viz., Anatomy, Physiology, and Materia Medica and Therapeutics . . .	6 6 0
<i>or</i>	
For Anatomy and Physiology . . .	£4 4 0
For Materia Medica and Therapeutics . . .	2 2 0
For the Third Division, viz., Pathology, and Forensic Medicine and Public Health . . .	4 4 0
For the Final Division, viz., Surgery and Clinical Surgery, Medicine and Clinical Medicine, and Midwifery . . . . .	6 6 0
	<u>£23 2 0</u>

Any Candidate who fails to pass in one or more of the subjects, must pay **£1, 1s.** for re-examination in each subject.

Candidates who, under the proviso in Section XI. of the Regulations, are exempted from the first division of the Examination, are required, after passing the final division of the Examination, to pay a fee of **£6, 6s.** before they can be admitted to the Degrees of M.B. and Ch.B.

Fee for M.D. . . . .	£10 10 0
Fee for Ch.M. . . . .	£10 10 0

## 380 *Graduation in Medicine—Dates of Examinations.*

Any Candidate who fails to pass the Examinations for the Degree of M.D. or for the Degree of Ch.M., is required to pay a Fee of £5, 5s. for each re-appearance.

Every Candidate for Examination or Graduation must be a Matriculated Student of the year in which he appears for Examination or Graduation. He is also required before Graduation to pay the fee of £1 for Registration as a Member of the General Council, if not already a Member.

### TIME-TABLES OF EXAMINATIONS.

*Candidates are required to enter for each periodical Professional Examination at which they desire to appear, and to state the subject or subjects in which they desire to be examined.*

The dates of the Examinations for 1900-1901 have been fixed as follows, and Candidates are required to assemble in the Examination Hall at the University a quarter of an hour before the time fixed for examination.

#### PRELIMINARY EXAMINATION.

See Time-Table and Dates of Entering, &c., pages 371 and 372.

### PROFESSIONAL EXAMINATIONS.

Candidates are required to enter their names and to pay the fees for the Examinations at the Matriculation Office, University (Old) Buildings, at the stated periods; and afterwards, at the stated periods, to exhibit their Certificates and Matriculation Cards at that Office. Certificates only will be received as evidence of attendance.

If names are not entered, Fees paid, and Certificates shown, or Theses lodged, on or before the stated dates (or a Pass obtained in the case of the fee having been previously paid), a late-entry fee of ten shillings must be paid before the Candidate can be admitted to any one of the Four Professional Examinations for M.B., or to the Professional Examinations for M.D. or Ch.M. Candidates may enter on payment of this fee till 4 P.M. on the third day previous to the commencement of the respective Examinations. Thereafter a late-entry fee of twenty shillings will be charged till twelve noon of the day preceding the commencement of any one of the Professional Examinations. No later entry will be received.

Candidates for M.D. and for Ch.M. whose Theses are not lodged by the appointed time (30th April), are not eligible for competition for medals or other awards.

If, after payment of the fee, a candidate withdraws his name, or fails to present himself at the examination, or part thereof, he will not receive back the fee, but will be allowed to enter on one subsequent occasion for examination in the same part or parts, without the payment of any additional fee.

## Graduation in Medicine—Dates of Examinations. 381

### FIRST PROFESSIONAL EXAMINATION.

This Examination takes place in March and July. Candidates may be admitted to Examination in all or in any two subjects, after they have attended a full course in each of the subjects professed.

1901.

- |      |     |      |   |
|------|-----|------|---|
| Mar. | 5.  | Tu.  | Names to be given in, and Fees paid, <i>on or before</i> this date.                                     |
| ,,   | 22. | Fri. | Certificates to be examined from 10 to 3.   |
| ,,   | 23. | Sat. | Practical Chemistry Examination begins at hours to be announced (also on subsequent days if necessary). |

#### *Written Examinations.*<sup>1</sup>

- |      |     |       |   |
|------|-----|-------|---|
| ,,   | 25. | Mon.  | Chemistry at 10 o'clock ; Physics at 1 o'clock.   |
| ,,   | 26. | Tu.   | Zoology at 10 o'clock ; Botany at 1 o'clock.  |
| July | 5.  | Fri.  | Names to be given in, and Fees paid <i>on or before</i> this date.                                      |
| ,,   | 17. | Wed.  | Certificates to be examined from 10 to 3.   |
| ,,   | 18. | Thur. | Practical Chemistry Examination begins at hours to be announced (also on subsequent days if necessary). |

1901.

#### *Written Examinations.*<sup>1</sup>

- |      |     |      |   |
|------|-----|------|---|
| July | 19. | Fri. | Chemistry at 10 o'clock ; Physics at 1 o'clock. |
| ,,   | 20. | Sat. | Zoology at 10 o'clock ; Botany at 1 o'clock.    |

### SECOND PROFESSIONAL EXAMINATION.

This Examination takes place in March and July. Candidates who have passed the First Examination may be admitted to this Examination at the end of their Third Winter Session, on production of certificates of attendance on the Classes in the three subjects of this Examination.

- |      |     |      |  |
|------|-----|------|--|
| Mar. | 11. | Mon. | Names to be given in, and Fees paid <i>on or before</i> this date. |
| ,,   | 23. | Sat. | Certificates to be examined from 10 to 1.                          |

#### *Written Examinations.*<sup>1</sup>

- |    |     |       |  |
|----|-----|-------|--|
| ,, | 27. | Wed.  | Anatomy at 10 o'clock ; Physiology at 1 o'clock. |
| ,, | 28. | Thur. | Materia Medica and Therapeutics at 10 o'clock.   |
- Candidates may postpone their Examination in Materia Medica and Therapeutics until the close of the Summer Session following.
- |      |     |       |  |
|------|-----|-------|--|
| July | 12. | Fri.  | Names to be given in, and Fees paid <i>on or before</i> this date. |
| ,,   | 18. | Thur. | Certificates to be examined from 10 to 3.                          |

<sup>1</sup> Lists for the Oral Examinations will be posted immediately after the respective Written Examinations.

## 382 *Graduation in Medicine—Dates of Examinations.*

### *Written Examination.*<sup>1</sup>

- July 22. Mon. Anatomy at 10 o'clock ; Physiology at 1 o'clock.  
 „ 23. Tues. Materia Medica and Therapeutics at 10 o'clock.

### THIRD PROFESSIONAL EXAMINATION.

This Examination takes place in March and July, and Candidates who have passed the Second Examination may be admitted to this Examination at the end of their Fourth Winter Session, on production of certificates of attendance on the Classes in the two subjects of this Examination.

- Mar. 15. Fri. Names to be given in, and Fees paid *on or before* this date.  
 „ 28. Thur. Certificates to be examined from 10 to 3.

### *Written Examinations.*<sup>1</sup>

- „ 29. Fri. Pathology at 10 o'clock ; Forensic Medicine and Public Health at 1 o'clock.

Candidates may postpone their Examination in Forensic Medicine and Public Health until the close of the Summer Session following.

- July 17. Wed. Names to be given in and Fees paid *on or before* this date.  
 „ 23. Tues. Certificates to be examined from 10 to 3.

### 1901. *Written Examination.*<sup>1</sup>

- July 24. Wed. Pathology at 10 o'clock ; Forensic Medicine and Public Health at 1 o'clock.

### FOURTH OR FINAL PROFESSIONAL EXAMINATION.

This Examination takes place in May and June, and may be taken when the Candidate has passed the Third Examination, and has completed his Fifth year of Medical Study.

- April 17. Wed. Names to be given in and Fees paid *on or before* this date.  
 „ 18. Thur. }  
 „ 19. Fri. } Certificates to be examined from 10 to 1.

### *Written Examinations.*<sup>1</sup>

- May 3. Fri. Clinical Medicine Examination begins.  
 June 17. Mon. Medicine at 10 o'clock ; Midwifery at 1 o'clock.  
 „ 18. Tu. Surgery at 10 o'clock.  
 „ 19. Wed. Clinical Surgery Examination begins.

<sup>1</sup> See footnote, page 381.

DEGREE OF DOCTOR OF MEDICINE.<sup>1</sup>

April 30. Theses to be lodged, Certificates shown, and Fees paid *on or before* this date.

*Written Examinations.*<sup>2</sup>

June 21. Fri. Names to be entered and Fees paid by Candidates for Clinical Examination only *on or before* this date.

July 5. Fri. Clinical Medicine Examination begins at 9.45 A.M.

DEGREE OF MASTER OF SURGERY.<sup>1</sup>

April 30. Theses to be lodged, Certificates shown, and Fees paid *on or before* this date.

*Written Examinations.*<sup>2</sup>

June 21. Fri. Names to be entered and Fees paid by Candidates for Clinical Examination only *on or before* this date.

July 5. Fri. Surgical Anatomy. Operations on the dead body. Clinical Surgery Examinations begin.

DEGREE OF D.Sc.

1900.

Dec. 2. Mon. Theses to be lodged, Certificates shown, and Fees paid *on or before* this date.

1901.

July 17. Wed. Names to be given in for Graduation, and the Registration Fee (if not previously registered) paid *on or before* this date.

„ 27. Sat. GRADUATION CEREMONIAL at 10 A.M. Graduands to assemble at 8.30 A.M.

Information relative to Matriculation and the Curriculum of Study, and the Subjects of Examinations for Degrees in Medicine and Surgery, and for Fellowships, Scholarships, Bursaries, Prizes, &c., &c., may be obtained on application to the Dean of the Faculty of Medicine, University New Buildings.

The fee for Matriculation, for Examinations for Degrees, and for Registration as Member of the General Council of the University, are payable at the *Matriculation Office, University (Old) Buildings*.

<sup>1</sup> If Theses and Certificates are not lodged, or fees not paid, on or before the dates specified, a late-entry fee of 10s. will be charged. See also Regulations as to entering for Examinations, page 380.

<sup>2</sup> See footnote 1, page 381.

## 384 *Graduation in Medicine—Extra-Academical Teachers.*

Candidates may pay the fees personally, or transmit them to T. GILBERT, University, Edinburgh, by *Post Office* or *Postal Orders*, or by *Bank Drafts*, crossed "*Union Bank of Scotland (Hunter Square Branch), Edinburgh*," but not by cheques on private accounts. A Candidate is not held to be entered until his schedule is lodged, the fee paid, and a pass to the Examination obtained.

### EXTRA-ACADEMICAL TEACHERS, WHOSE LECTURES QUALIFY FOR GRADUATION IN THIS UNIVERSITY.

#### REGULATIONS OF THE UNIVERSITY COURT RELATIVE TO CERTIFICATES OF ATTENDANCE.

The Certificate of Attendance granted to Students by recognised Extra-Academical Teachers, should, in all cases, state the number of Lectures, or of Meetings for Practical Instruction, in the Course; the number of occasions on which attendance was ascertained; and the number of those occasions on which the Student was present, and in what further respects he duly performed the work of the class. The Certificate should also state the general scope of the Course; and, in particular, in the case of *Chemistry*, that the Course included Organic as well as Inorganic Chemistry; in the case of *Midwifery*, that it included the Diseases of Women and Children; and, in the case of *Practical Materia Medica*, that it included Pharmacognosy, Pharmacy, Dispensing, and the writing of Prescriptions.

#### ABERYSTWYTH.

		<i>Date of Recognition.</i>
J. R. Ainsworth Davis, M.A.	Natural History,	28 July 1886.
D. Morgan Lewis	Physics,	16 July 1894.
J. H. Salter, B.Sc.	Botany,	30 Oct. 1893.
H. Lloyd Snape, D.Sc.	{ Chemistry & Prac- tical Chemistry,	} 19 March 1888.
James J. Dobbie, D.Sc.,	{ Chemistry & Prac- tical Chemistry,	
		} 30 May 1885.

#### BANGOR.

Reginald W. Phillips, M.A.,	Botany,	30 May 1885.
Philip J. White, M.B.,	Natural History,	9 Dec. 1889.

#### BELFAST.

R. O. Cunningham, M.D.,	Zoology,	18 Feb. 1895.
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BIRMINGHAM.

*Date of Recognition.*

F. J. Allen, M.A.,	{ Physiology & Prac- tical Physiology, }	12 Dec. 1887.
T. W. Bridge, M.A.,	Zoology,	9 July 1883.
Percy F. Frankland, Ph.D.,	{ Chemistry & Prac- tical Chemistry, }	16 July 1894.
W. Hillhouse, M.A.,	Botany,	26 Nov. 1883.
R. F. C. Leith, M.B., B.Sc.,	{ Pathology, Prac. Pathology,	16 Oct. 1899.
J. H. Poynting, D.Sc.,	Physics,	12 June 1893.
Bertram C. A. Windle, M.D.,	Anatomy,	{ 17 Nov. 1884. 29 Oct. 1888.

CARDIFF.

A. Francis Dixon, M.B.,	{ Anatomy & Prac- tical Anatomy, }	18 July 1898.
John Berry Haycraft, M.D.,	Physiology,	16 July 1894.
J. V. Jones, M.A., B.Sc.,	Physics,	16 July 1894.
W. N. Parker, Ph.D.,	Natural History,	28 July 1886.
Arthur L. Selby, M.A.,	Physics,	21 Oct. 1895.
Claude M. Thompson, M.A., D.Sc.,	{ Chemistry & Prac- tical Chemistry, }	28 July 1886.

*(Lecture Course may be divided between two consecutive Sessions.)*

A. H. Trow, B.Sc.,	Botany,	16 July 1894.
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CORK.

J. J. Charles, M.D., D.Sc.,	Physiology,	18 Feb. 1895.
<i>(Qualifying Course to embrace "Ordinary Course" and Course for Senior Students.)</i>		
Marcus Hartog, M.D., D.Sc.,	Zoology,	18 Mar. 1895.

DUBLIN.

A. C. Haddon, M.A.,	Natural History,	23 Jan. 1888.
Chs. R. C. Tichborne, Ph.D.,	Practical Chemistry,	28 Feb. 1881.

EDINBURGH.

A. P. Aitken, D.Sc.,	{ Chemistry & Prac- tical Chemistry, }	29 Oct. 1888.
J. O. Affleck, M.D.,	Practice of Physic,	8 Dec. 1879.
J. W. Ballantyne, M.D.,	Midwifery,	13 Dec. 1897.
R. J. A. Berry, M.D.,	Anatomy,	14 Dec. 1896.
Byrom Bramwell, M.D.,	Practice of Physic,	18 Oct. 1880.
Alexander Bruce, M.D.,	{ Pathology & Prac- tical Pathology, }	24 January 1887.

# 386 *Graduation in Medicine—Extra-Academical Teachers.*

EDINBURGH— <i>continued.</i>		<i>Date of Recognition.</i>
A. G. Bruce,	{ Practical Materia Medica,	18 June 1894.
Francis M. Caird, M.B., C.M.,	Surgery,	13 August 1886.
Wm. Craig, M.D.,	{ Materia Medica & Prac. Materia Med.	14 July 1879.
T. W. Drinkwater, Ph.D.	{ Chemistry and Practical Chemistry,	8 March 1880. 14 July 1879.
William Duncan,	Prac. Materia Med.,	12 April 1886.
R. A. Fleming, M.A., M.D.	Medicine,	13 Dec. 1897.
E. S. Fry, M.B.,	{ Practical Materia Medica,	21 Oct. 1895.
George A. Gibson, M.D.,	Practice of Physic,	9 Dec. 1889.
A. Lockhart Gillespie, M.D.,	Materia Medica,	25 Oct. 1897.
David Berry Hart, M.D.,	Midwifery,	22 Oct. 1894.
F. W. N. Haultain, M.D.,	Midwifery,	15 June 1891.
J. W. B. Hodsdon, M.D.,	Surgery,	3 August 1888.
John Hunter, F.I.C., &c.,	{ Chemistry & Practical Chemistry,	2 Oct. 1894.
Alex. James, M.D.,	Practice of Physic,	3 August 1888.
Alexander Johnstone,	Botany,	26 Oct. 1892.
J. Falconer King, F.C.S.,	{ Chemistry & Practical Chemistry,	12 Nov. 1894.
Harvey Littlejohn, M.D.,	{ Medical Jurisprudence,	17 May 1897.
Stevenson Macadam, Ph.D.,	{ Chemistry & Practical Chemistry,	before 1861.
W. Ivison Macadam, F.R.S.E.	{ Chemistry & Practical Chemistry,	23 July 1888.
A. N. M'Alpine, B.Sc.,	Botany,	8 March 1880.
George Mackay, M.D.,	Ophthalmology,	13 July 1896.
J. S. M'Laren, M.B.,	Surgery,	26 Oct. 1892.
A. T. Masterman, D.Sc.,	Zoology,	13 Nov. 1899.
R. Milne Murray, M.B.,	Midwifery,	13 August 1886.
D. Noël Paton, M.D.,	{ Physiology and Prac. Physiology,	24 Oct. 1887. 19 March 1888.
R. W. Philip, M.D.,	Medicine,	16 July 1894.
J. B. Readman, D.Sc.,	Practical Chemistry,	17 Dec. 1888.
George M. Robertson, M.B.,	Mental Diseases,	16 Oct. 1899.
W. G. Aitchison Robertson, M.D.	{ Public Health,	10 April 1897.
William Russell, M.D.,	{ Pathology & Practical Pathology,	6 August 1887.
Theodore Shennan, M.D.,	Pathology,	16 Oct. 1899.
Alexis Thomson, M.D.,	Surgery,	30 Oct. 1893.
James Adam Terras, B.Sc.,	Botany,	12 Dec. 1898.
R. Turnbull, B.Sc.,	Botany,	18 Feb. 1895.

## Graduation in Medicine—Extra-Academical Teachers. 387

### EDINBURGH—continued.

		<i>Date of Recognition.</i>
Dawson F. D. Turner, M.D.,	Physics,	20 March 1893.
David Wallace, M.B.,	Surgery,	14 Dec. 1896.
J. R. Whitaker, M.B.,	Anatomy,	16 July 1894.
William Wood, M.B.,	Prac. Materia Med.,	15 June 1893.

### GLASGOW.

John Barlow, M.D.,	{ Physiology,	26 Nov. 1883.
	{ Prac. Physiology,	8 January 1890.
A. M. Buchanan, M.D.,	{ Anatomy and Prac-	
	{ tical Anatomy,	12 Oct. 1874.
R. M. Buchanan, M.D.,	{ Medical Jurispru-	
	{ dence,	13 July 1896.
H. E. Clark, M.D.,	Surgery,	12 Feb. 1894.
John Edgar, M.D., B.Sc.,	Midwifery,	14 Dec. 1896.
Samson Gemmell, M.D.,	Practice of Physic,	18 July 1881.
R. Barclay Ness, M.A., M.B.,	{ Materia Medica &	
	{ Prac. Materia Med.	16 Dec. 1895.
Alex. Robertson, M.D.,	Practice of Physic,	15 June 1891.
W. Ernest F. Thomson,	{ Physiology & Prac-	
	{ tical Physiology,	13 Feb. 1899.

### LIVERPOOL.

J. Wigglesworth and the	{ Mental Diseases,	{ 18 Dec. 1899.
Lancashire County Asylum,		

### LONDON.

H. E. Armstrong, Ph.D.,	{ Chemistry,	{ 25 Oct. 1897.
F.R.S.,		
W. E. Ayrton, F.R.S.,	{ Physics,	{ 25 Oct. 1897.
(Lecturers in the City and Guilds of London Institute.)		

*(Courses to include First and Second Years of Study.)*

G. B. Howes,	Natural History,	18 July 1887.
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### NOTTINGHAM.

J. W. Carr, M.A.,	Botany,	16 Jan. 1893.
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### SHEFFIELD.

Christopher Addison, M.D.,	Anatomy,	12 Dec. 1898.
C. F. Myers Ward.	Physiology	16 Jan. 1899.
W. Carlton Williams, B.Sc.,	{ Chemistry & Prac-	
	{ tical Chemistry,	26 Nov. 1883.

**B.—ABRIDGED REGULATIONS FOR GRADUATION  
IN MEDICINE AND SURGERY, APPLICABLE  
TO ALL WHO COMMENCED THEIR MEDICAL  
STUDIES BEFORE 1ST OCTOBER 1892.**

*For full Regulations see CALENDAR for 1898-99 or previous CALENDARS.*

Three Degrees are conferred—viz., Bachelor of Medicine (M.B.), Master in Surgery (C.M.), and Doctor of Medicine (M.D.).

**DEGREES OF BACHELOR OF MEDICINE AND MASTER IN  
SURGERY (M.B., C.M.).**

*Preliminary Examination.*<sup>1</sup>—The preliminary subjects of examination are English, Latin, Arithmetic, the Elements of Mathematics, and the Elements of Mechanics; and any two of Greek, French, German, Higher Mathematics, Natural Philosophy, Logic, Moral Philosophy, as prescribed on page 389 hereof. The examinations in English, Latin, Arithmetic, and Mathematics, are the same as in English, Latin, and Mathematics (which includes Arithmetic) for M.B., Ch.B.; and the examination in Mechanics is the same as that in Dynamics in the Arts and Science Preliminary Examinations.

*See Time-Table of Examinations, Dates of Entering and Payment of Fees, c., pp. 371 and 372.*

*Professional Education.*—The chief differences between the Old and New Regulations are :—Candidates for Graduation under the Old Regulations are not required to attend courses on Physics, Mental Diseases, Diseases of the Eye, Diseases of Children, or Diseases of the Larynx, Ear, and Nose, Clinical Instruction in Fevers, Post-Mortem Examinations, Clerking and Dressing in a Public Hospital, Diseases of the Skin. In Practical Anatomy they are only required to attend a five months' course; in Clinical Medicine and Clinical Surgery one course of five months, or two courses of three months each, and Hospital attendance for twenty-four months.

*Professional Examinations.*—The only differences are:—Candidates under the Old Regulations are not examined in Physics in the First Professional Examination. The Regulations for entering for the First and Second Professional Examinations, and for

<sup>1</sup> The Dean of the Faculty will give information regarding examinations which exempt from the Preliminary Examination; and see also CALENDAR for 1892-93, and previous CALENDARS, for examinations which exempt.

payment of Fees are the same as for M.B., Ch.B. The Examinations in Pathology are held at the same time as the Examinations in that subject for M.B., Ch.B.; *but the regulations for entering and payment of Fees are as for the Second Professional Examination.* The examination in Forensic Medicine and Public Health is held in *Spring only* at the same time as the examination in that subject for the Third Professional Examination for M.B., Ch.B. The examinations in the other subjects of the Final Examination take place at the same time as in the corresponding subjects for M.B., Ch.B.; *but Candidates under the Old Regulations are required to enter their names, and pay the Fees for the Final Examination on or before 20th March; and Certificates will be examined on 28th March, from 10 to 3.* See Time Tables of Examinations, pp. 381-383.

Otherwise the Regulations are the same as for M.B., Ch.B.

For further information apply to the Dean of the Faculty.

*Optional Preliminary Subjects of Examination under the Old Regulations for Bachelors of Medicine and Masters in Surgery (M.B., C.M.) who intend to proceed to the Degree of Doctor of Medicine, and for those who commenced the Study of Medicine by attendance on Medical Classes before 1st October 1892, for Autumn 1900 to Spring 1902 inclusively.*<sup>1</sup>

Each Candidate is required to pay a fee of 10s. 6d. for each appearance at the Preliminary Examination.

1. GREEK.—Xenophon, *Cyropaedia*, Book VI. Some easy sentences of English will be set to be translated into Greek.

2. FRENCH.—Alphonse Daudet's *Le petit Chose*, première partie (Hachette & Co.). An easy passage in English will be given for translation into French.

3. GERMAN.—Homann, *Deutsche Märchen*, Nos. 8-14. An easy passage in English will be given for translation into German.

4. HIGHER MATHEMATICS.—Same as Higher Mathematics for the Preliminary Examination for the Degree of M.A.

5. NATURAL PHILOSOPHY.—(1) Properties of matter—Elasticity, Density, Porosity, Capillarity, &c. (2) Elementary phenomena of Sound, Light, Heat, Electricity, and Magnetism. Text-Books recommended—Balfour Stewart's *Elementary Physics*, and Tait's *Properties of Matter*.

6. LOGIC.—The Elements of Deductive and Inductive Logic, as in Jevons's *Elementary Lessons*.

7. MORAL PHILOSOPHY.—Professor Seth's *Ethical Principles*, Introduction and Part I.

<sup>1</sup> See Time Tables, and dates of entering for the examinations and payment of fees, pages 381-382.



## DEGREE OF DOCTOR OF MEDICINE.

*For full Regulations see CALENDAR for 1898-99 or previous CALENDARS.*

XVII. The Degree of DOCTOR OF MEDICINE may be conferred on any candidate who has obtained the Degrees of Bachelor of Medicine and Master in Surgery, and is of the age of twenty-four years, and produces a certificate of having been engaged subsequently to his having received the Degrees of Bachelor of Medicine and Master in Surgery, for at least two years in attendance on an Hospital, or in the Military or Naval Medical Services, or in Medical and Surgical Practice:

Provided always that the Degree of Doctor of Medicine shall not be conferred on any person, unless he be a Graduate in Arts of one of the Universities of England, Scotland, or Ireland, or of such other Universities as have been specially recognised for that purpose, or unless he shall, before or at the time of his obtaining the Degrees of Bachelor of Medicine and Master in Surgery, or thereafter, have passed a satisfactory examination in Greek, and in either Logic or Moral Philosophy, and in one of the following subjects at the option of the Candidate—namely, French, German, Higher Mathematics, and Natural Philosophy.

And provided also that the candidate for the Degree of Doctor of Medicine shall submit to the Faculty of Medicine a Thesis, certified by him to have been composed by himself, and which shall be approved by the Faculty, on any branch of knowledge comprised in the professional examinations for the Degrees of Bachelor of Medicine and Master in Surgery, which he may have made a subject of study after having received those Degrees. The Candidate must lodge his Thesis with the Dean on or before 30th April of the year in which he proposes to graduate. No Thesis will be approved by the Medical Faculty which does not contain either the results of original observations in practical Medicine, Surgery, Midwifery, or in some of the sciences embraced in the curriculum for the Bachelor's and Master's Degrees; or else a full digest and critical exposition of the opinions and researches of others on the subject selected by the Candidate, accompanied by precise references to the publications quoted, so that due verification may be facilitated.<sup>1</sup>

Candidates, settled for a period of years in foreign parts, who

<sup>1</sup> Candidates are required to write their Theses on faint lined paper, 11 in. by 8½ in. with margins 1½ in. at each side. The Thesis is to be written on one side of each leaf only.



have complied with all the regulations for the Degree of M.D., but who cannot appear personally to receive the Degree, may, on satisfying the Senatus to that effect, by production of sufficient official testimonials, have the Degree conferred on them in absence.

### FEES FOR DEGREES, &c.

Examination in Botany, Chemistry, Chemical Testing, Natural History, . . . . .	£5 5 0
Examination in Anatomy, Institutes of Medicine, Materia Medica, Prescriptions, Pathology, . . . . .	5 5 0
Final Examination in Surgery, Midwifery, Practice of Physic, Forensic Medicine and Public Health, Clinical Medicine (with Prescriptions), Clinical Surgery, during last Summer Session, . . . . .	10 10 0
Total Fees for M.B. and C.M. Diplomas, . . . . .	<u>£21 0 0</u>
Fee for M.D., . . . . .	£5 5 0
Matriculation Fee, . . . . .	1 1 0

In the event of the Candidate failing to pass any one of the Professional Examinations, the Fee is not returned; but he may appear at one subsequent examination without paying an extra Fee, and at any future examination on paying a Fee of £2, 12s. 6d.

April 30. Theses to be given in, Certificates shown, and Fees paid *on or before* this date.

July 17. Wed. Names to be given in for Graduation *on or before* this date.<sup>1</sup>

„ 27. Sat. GRADUATION CEREMONIAL at 10 A.M. Graduands are required to assemble at 8.45 A.M.

### REGULATIONS FOR INSTRUCTION AND FOR SPECIAL CERTIFICATE IN DISEASES OF TROPICAL CLIMATES, APPROVED FEBRUARY 1899.

1. Each Course of Instruction shall be open to (1) Qualified Medical Practitioners; (2) Students who have completed the Curriculum for the Final Examination in Medicine of any of the Qualifying Medical Authorities; and (3) others specially interested in the subject.

2. Certificates of attendance will be granted as follows:—(a) A Class Certificate to each member of the Class who has performed the work of the Class in a satisfactory manner; (b)

<sup>1</sup> If Theses and Certificates are not lodged, or fees not paid, on or before the dates specified, a late-entry fee of 10s. will be charged. See also Regulations as to entering for Examinations, page 380.

A University Certificate, to be signed by the Dean of the Faculty of Medicine, to each member of the Class who has attended a course of instruction on Practical Bacteriology, including the Micro-organisms of Tropical Diseases, who has also attended the course of instruction in Tropical Diseases, and who has performed the work of both of these Classes in a satisfactory manner. This Certificate shall be based on evidence received from the Teachers on Practical Bacteriology and Tropical Diseases.

REGULATIONS FOR SPECIAL STUDY AND RESEARCH, AND FOR THE APPOINTMENT OF RESEARCH FELLOWS, &C. See page 115.

REGULATIONS FOR THE DEGREE OF D.SC., &C. See page 117.

## DOCTORS OF MEDICINE

WHO HAVE BEEN AWARDED GOLD MEDALS FOR THEIR THESES  
FROM 1889 TO 1899 INCLUSIVELY.<sup>1</sup>

1889.

Herbert H. Ashdown, England  
John W. Ballantyne, Scotland  
Arthur J. M'D. Bentley, England  
Kenneth M. Douglas, Scotland  
Thomas A. Helme, England  
Henry Alexis Thomson, Scotland  
Joseph Tillie, Scotland  
Herbert F. Waterhouse, England

1890.

Joseph Griffiths, Wales  
Robert Muir, Scotland  
George Edmund Pieriez, Ceylon  
W. G. A. Robertson, Scotland  
Arthur Robinson, England  
John David Williams, Wales

1891.

Edmund W. W. Carlier, England

Vaughan Berkeley Harley, England  
David Hepburn, Scotland  
Alexander Miles, Scotland  
James Ritchie, Scotland  
George Neil Stewart, Scotland  
John Clarence Webster, Canada

1892.

George Sandison Brock, Scotland  
Alex. Lockhart Gillespie, Scotland  
William Aldren Turner, Scotland  
Arthur John Whiting, England  
Theodore Stacey Wilson, England

1893.

Francis Darby Boyd, Scotland  
James Samuel Risien Russell,  
Demerara  
James Lorrain Smith, Scotland  
John Cleasby Taylor, England

<sup>1</sup> The names of those who received Gold Medals prior to 1859 will be found in the List of Graduates in Medicine of the University of Edinburgh since its foundation, published in 1867, and the names of those who received Gold Medals from 1859 to 1888, both years included, will be found in the Historical Appendix to List of Graduates, published in 1889, pp. 128, 129.

William Ernest Francis Thomson,  
Scotland

1894.

Lewis Campbell Bruce, Scotland  
William Menzies Hutton, Scotland  
Gustav Mann, India  
James Acworth Menzies, Scotland  
John Douglas Stanley, Ireland

1895.

Frank Leigh Ehrke, England  
Wilfred Vincent Miller Koch,  
Ceylon

James Ritchie, Scotland  
Andrew Walker, Scotland

1896.

Robert Swan Aitchison, Scotland  
William Elder, Scotland  
Robert Alexander Fleming, Scot-  
land  
Claude Buchanan Ker, England  
John Macpherson, Scotland  
Thomas Hugh Milroy, Scotland  
George Robert Wilson, Scotland

1897.

Friedrich Wilhelm Eurich, M.D.,  
Saxony  
William Edward Fothergill, M.D.,  
England  
Thomas Alexander Wemyss Ful-  
ton, M.D., Scotland  
David Arthur Welsh, M.D., Scot-  
land

1898.

Andrew Balfour, M.D.  
Alexander Corsar Sturrock, M.D.

1899.

Robert William Beesley, M.D.,  
England  
Dina Nath Prithu Datta, M.D.,  
India  
Percy Theodore Herring, M.D.,  
England  
Jessie MacLaren MacGregor,  
M.D., Scotland  
John Malcolm, M.D., Scotland  
William John Munro, M.D.,  
Australia

DOCTORS OF MEDICINE WHO GRADUATED ON 29TH JULY 1899,  
WITH THE TITLES OF THEIR THESES.

\*\*\* *Obtained Gold Medals for their Dissertations.*

\*\* *Deemed worthy of competing for Gold Medals.*

\* *Commended for their Dissertations.*

\* Noel Dean Bardswell, Eng-  
land, M.B., C.M., 1895.  
Foreign Bodies in the Eye,  
chiefly in relation to the  
Sheffield Metal Industry.

\*\*\* Robert William Beesley,  
England, M.B., C.M.  
(with Second-Class Hon-  
ours), 1894. Menstrua-  
tion: its Aetiology and  
Relation to other Vital  
Functions.

\* Percy Hamilton Boyden,  
England, M.B., C.M.,  
1890. Framboesia or

Yaws: with special refer-  
ence to the diagnosis be-  
tween it and Syphilis.

\* Thomas Lawrie Brander,  
Scotland, M.B., C.M.,  
1888. Elephantiasis Ara-  
bum.

5 Robert Warden Briggs, Eng-  
land, M.B., C.M. (with  
Second-Class Honours),  
1894. Enuresis.

\* Nathaniel Caine, England,  
M.B., C.M., 1895. The  
Progressive Muscular Dys-  
trophies.

- \* William Johnston Calder, Jamaica, M.B., C.M., 1878. A new method of performing the operation of External Oesophagotomy, with a description of the "Oesophagotite," an instrument for the extraction of foreign Bodies from the Oesophagus.
- \* Thomas Marshall Callender, Scotland, M.B., C.M., 1896. General Dropsy of the Fœtus.
- \*\* Samuel William Carruthers, England, M.B., C.M., 1889. A contribution to the mechanism of Articulate Speech.
- 10\* John Mandall Coates, Scotland, M.B., C.M., 1895. Pneumonia and the Pneumococcus: A Clinical Study
- \* Robert Pitcairn Cockburn, Scotland, M.B., C.M., 1891. Digestive Derangements in Infancy.
- \* John Hamilton Crawford, Australia, M.B., C.M., 1891. Tables of Mortality for the City of Bradford, with mode of Construction and Analysis.
- Andrew Croll, Scotland, M.B., C.M., 1893. Clinical and Pathological Observations on cases of Prostatic Enlargement (so called) with its Complications; and on Carcinomata of the Prostate Gland, simulating Enlargement, with incidental remarks on treatment.
- \*\* Dina Nath Prithu Datta, India, M.B., C.M., 1885. Bubonic Plague.
- 15 Edward Percival Dickin, England, M.B., C.M., 1893. Supernumerary Digits.
- \* Joseph Dominie Doherty, Australia, M.B., C.M., 1897. The selection of an Anæsthetic.
- \* John Adamson Honey Duncan, Scotland, M.B., C.M., 1891. Researches on the Normal and Pathological Histology of Surface Endothelium as examined by the method of Superficial Horizontal Section.
- \* William John Adams Erskine, Scotland, M.B., C.M., 1896. Epileptic Insanity.
- William Evans, England, M.B., C.M., 1895. The Nature of Bronchial Asthma, and the principles of its treatment.
- 20 Ahmed Fahmy, Egypt, M.B., C.M., 1886. The Geographical Distribution, Etiology, and Treatment of Beri-Beri.
- \*\* John Forbes (M.A., B.Sc.), Scotland, M.B., C.M. (with First-Class Honours), 1895. Recent Researches on Leucocytosis, with special reference to the so-called Polynuclear Neutrophile form.
- \*\* James Stewart Fowler, Scotland, M.B., C.M. (with Second-Class Honours), 1892. The Action of Red Bone-Marrow and other substances on the regeneration of the Blood, and on

the Splenic Anæmia of Infancy.

- \*\* William Herbert Goldie, New Zealand, M.B., C.M., 1897. *Polynesian Medical Researches.*

Robert Gordon, Ireland, M.B., C.M., 1885. *Exophthalmic Goitre*, with notes of seven cases and their treatment.

- 25\* William Baxter Gow, Scotland, M.B., C.M., 1892. *An Investigation into the relationship between Chronic Renal Disease and the Condition of excitement and depression in the Insane.*

- \* David James Graham, Scotland, M.B., C.M., 1895. *Oligoleucocythæmia (Leucopenia).*

James Harvey, Scotland, M.B., C.M., 1889. *Some Disorders of the Nervous System associated with Gestation and the Puerperium.*

- \* Francis Henry Hawkins, England, M.B., C.M., 1882. *Typhoid Fever.*

James Milne Hermon, Scotland, M.B., C.M., 1890. *Enteric Fever.*

- 30\*\*\* Percy Theodore Herring, England, M.B., C.M. (with First-Class Honours), 1896. *The Malpighian Bodies of the Kidneys.*

- \*\* Matthew Little Hewat, South Africa, M.B., C.M., 1889. *The Medical Folk-Lore of the Bantu Tribes.*

- \* John Howard-Jones (D.Sc.), Wales, M.B., C.M., 1890. *Epidemic of Summer*

*Diarrhœa in Newport, 1897*, with comparisons with previous years, and with the experiences of the "33 Large" and other provincial towns of England and Wales during 1897.

John Vernon Hulme, England, M.B., C.M., 1891. *Rickets: A Consideration of the Symptoms, Morbid Anatomy, and Etiology.*

- \*\* David Mount Hutton (B.Sc.), England, M.B., C.M., 1895. *Intestinal Myiasis: A Historical, Critical, and Experimental Enquiry.*

- 35 Thomas Henry Jones, England, M.B., C.M., 1894. *Typhoid Fever in Children.*

- \*\* Carel Hendrik Kruger, South Africa, M.B., C.M., 1896. *An Experimental Research on the Absorption of Phenol by the Skin.*

Alexander Ernest George Langschmidt, Cape Colony, M.B., C.M., 1884. *The Therapeutical value of Mineral Springs*, with especial reference to the Chalybeate and Thermal Baths at Caledon, South Africa.

Oswald Richard Lewis, England, M.B., C.M., 1889. *Handwriting in Chorea.*

- \* George Henry List, Scotland, M.B., C.M., 1896. *Disturbances in Cardiac Action, and their causes and symptoms.*

- 40\*\*\* Jessie MacLaren MacGregor, Scotland, M.B., C.M., 1896. *The Comparative Anatomy of the Eighth Nerve.*

- John Macmillan, Scotland, M.B., C.M., 1896. Notification of Measles, with several cases of Lung Complications after an Epidemic.
- John Finlayson Macphail (M.A.), Scotland, M.B., C.M., 1894. The Continuous Administration of Nitrous Oxide and Oxygen for Surgical Operations.
- \*\* Robert Haldane Makgill, Scotland, M.B., C.M. (with First Class Honours), 1893. Observations on Typhoid Epidemics in Auckland, New Zealand, with an Analysis of over two hundred cases in which the Serum Reaction was tested.
- \*\*\* John Malcolm, Scotland, M.B., Ch.B. (with Second Class Honours), 1897. A Contribution to our knowledge of the Specific Granules in the Cytoplasm of Leucocytes, with special reference to the action of Nucleic Acid.
- 45 Henry Banbury Mapleton (M.A.), England, M.B., C.M., 1894. Rural Sanitation.
- Raymond Maxwell, Tasmania, M.B., C.M., 1892. The Treatment of Continued Fevers by Continued Immersion.
- \* David Macbeth Moir (M.A.), India, M.B., C.M., 1885. The "Garter" Operation, with remarks on the Etiology and treatment of Varix and Varicose Ulcers of the Lower Limbs.
- \*\*\* William John Munro (B.A.), Australia, M.B., C.M., 1884. Psoriasis, with special observations concerning its Histopathology and Aetiology.
- Harold Valdemar Münster, Australia, M.B., C.M., 1894. Progressive Bulbar Paralysis, complicated by Oculomotor and Spinal Paralysis involving the Cervical Region of the Cord.
- 50 James Thomas Charles Nash, India, M.B., C.M., 1886. Modern Bubonic Plague.
- Andrew Newall (B.A.), Scotland, M.B., C.M., 1892. Plumbism or Lead Poisoning.
- \* Lloyd John Hollis Oldmeadow, Tasmania, M.B., C.M., 1892. The treatment of Typhoid Fever by Immersion.
- Thomas Wright Parkinson, New Zealand, M.B., C.M., 1890. Retropharyngeal Abscess.
- \* John Arthur Parsons, England, M.B., C.M., 1895. Notes on the Open-air or Hygienic treatment of Phthisis, with special reference to the Hind Head district of Hampshire as a Health Resort for Consumptives.
- 55\* Robert John Paton, India, M.B., C.M., 1886. Typhoid Fever, especially in reference to its Aetiology as illustrated by various epidemics occurring in and about Newport, Mon., within recent years.



- Herbert Peck, England, M.B., C.M., 1896. The Frequency of Sick-room Infection in Typhoid Fever.
- \*\* Harry Rainy (M.A.), Scotland, M.B., C.M., (with First Class Honours), 1891. Action of Toxic Substances on Spinal Stichochrome Cells.
- Malur Srinivasa Rau (M.A., B.Sc.), India, M.B., C.M., 1895. The Bacillus Pestis Bubonicæ: A Bacteriological study.
- \*\* William Riach, Scotland, M.B., C.M., 1894. The Causation of Epidemic Diarrhœa.
- 60 \*\* William Thomas Ritchie, Scotland, M.B., C.M., 1896. The Bacteriology of Bronchitis.
- William Archibald Rutherford, England, M.B., C.M., 1893. The Surgical Treatment of Enlarged Prostate.
- \*\* David Wilson Scotland, India, M.B., C.M. (with Second Class Honours), 1886. An Account of a recent Outbreak of Plague in the Hardwar Municipal Union and adjacent villages, and of the measures successfully adopted for its suppression.
- William Cecil Sharpe, England, M.B., C.M., 1890. Cold and Heat as Therapeutic Agents: their practical application and value in some Pathological Conditions.
- \*\* Arthur Henry Havens Sinclair, Scotland, M.B., C.M., 1893. Detachment of the Retina, with Notes on an Experimental Research in the artificial production of detachment, and in a method for the application of Fibrinogen as a therapeutic agent.
- 65 \* Thomas Stewart, England, M.B., C.M., 1895. A study of Rheumatism and its allied Affections.
- \*\* Frederick William Sydenham, England, M.B., C.M., 1893. Sixty years' Tuberculosis in Walsall Sub-Registration District.
- John William Talent, England, M.B., C.M., 1886. The treatment of Respiratory Affections by the Intra-tracheal Injection of Drugs.
- \* Thomas James Thomson, Scotland, M.B., C.M., 1893. The present position of Ringworm and Alopecia Areata.
- Herbert Watthews, England, M.B., C.M., 1889. Notes of three cases of Puerperal Eclampsia, with a short account of the Causation and Treatment.
- 70 \*\* Alfred Maxwell Williamson (B.Sc.), Scotland, M.B., C.M., 1888. An Enquiry into the Infectivity of Tuberculous Meat, together with an Enquiry into the method of Tuberculous Meat Inspection adopted in Public Abattoirs, and a Criticism of the Reports of the Royal Commission on Tuberculosis.

# 398 *Graduates in Medicine—M.B., C.M., with Honours.*

Robert Appleton Wilson,  
England, M.B., C.M.,  
1888. Ten years' mortality  
in Rubery Hill Asylum.  
An Analysis of 338 Cases.

George Pratt Yule (B.Sc.),  
Scotland, M.B., C.M.,  
1894. The Diagnosis of  
Intestinal Perforation in  
Typhoid Fever.

## BACHELORS OF MEDICINE AND MASTERS IN SURGERY (M.B., C.M.) WHO HAVE PASSED THE EXAMINATIONS WITH HONOURS FROM 1889 TO 1899, BOTH YEARS INCLUDED.<sup>1</sup>

1889.

### *Class I.*

Robert Oswald Adamson (M.A.),  
Scotland

John William Crerar, Scotland

William Fred. Farquharson, Scot.

James Lackie, Scotland

Jas. Hill Williamson Laing (M.A.,  
B.Sc.), Scotland

Hamilton Graham Langwill, Scot.

Alexander Maclean, Scotland

Eustace G. Pilgrim, Barbados

Wm. Gordon Woodrow Sanders,  
Scotland

James Andrew Thyne, Scotland

George Wilkinson, England

### *Class II.*

Robert Dunlop Reid Allison, Scot.

William Everett, England

George Alfred Walter, England

Colin Gordon, England

Ewan John Maclean, Wales

James Monteith, Scotland

Benjamin Sweeten, Scotland

C. N. C. Wimberley, Scotland

1890.

### *Class I.*

Charles James Whitehead Dixon,  
England

Carstairs Cumming Douglas, Scot.

Gerald Fitzgerald, Scotland

Robert Main Horne, Scotland

Colin Forbes Lees, Scotland

William Paterson, Scotland

George William Thompson, La  
Plata

William Kerr Walker, Scotland

### *Class II.*

Ed. H. Alexander, New Zealand

Robert Brown, Scotland

John Wheeler Dowden, Ireland

George Balfour Marshall, Scotland

Arnold W. Williams, England

1891.

### *Class I.*

John Wardle Bone, England

Wm. Blackley Drummond, Scot.

George Elder, Scotland

Edward Barnard Fuller, Africa

Henry Baker Hall, England

George Hennan, Scotland

Herbert Saunders Wansbrough

Jones (B.Sc.), Wales

Harry Rainy (M.A.), Scotland

### *Class II.*

Robt. J. Ashton (B.A.), England

Robert Cran, Scotland

Frederich Wilhelm Eurich, Saxony

David J. Mackenzie (M.A.), Scot-  
land

John Orr, Scotland

David Stuart, Scotland

Wm. J. Walker (B.A.), Australia

Neish Park Watt (M.A.), Scotland

John Thos. Wilson, Tasmania

1892.

### *Class I.*

Alexander Brownlie, Scotland

<sup>1</sup> For names of those who received the Degrees with Honours prior to 1889, see Historical Appendix to List of Graduates of the University, published in 1889, pp. 129-132.

Charles Cromhall Easterbrook,  
(M.A.), England

George Home, New Zealand

Lim Boon Keng, Singapore

Robert Murray Leslie (M.A.,  
B.Sc.), Scotland

Donald Macaulay (M.A.), Scot.

*Class II.*

Alexander Douglas (M.A.), Eng.

Daniel Charles Edington, Scot.

John James Evans, Wales

Arthur Fells, England

James Stewart Fowler, Scotland

Robert Walker Gray, Scotland

Robert John Johnston, Scotland

Geo. Wm. F. Macnaughton, Scot-  
land

Philip Oscar Malabre, Jamaica

Peter William Shaw, Scotland

Alfred George Talbot (B.A.), New  
Zealand

George Templeton, Scotland

1893.

*Class I.*

Charles Crerar, Scotland

John Buchanan Duff, Scotland

Alex. M. Easterbrook, Scotland

Wm. E. Fothergill (M.A., B.Sc.),  
England

Robert Hutchison, Scotland

Robert H. Makgill, Scotland

Jas. V. Paterson, M.A., Scotland

David W. Sutherland, Australia

Hugh Walker (M.A.), Scotland

D. A. Welsh (M.A.), Scotland

*Class II.*

William Randolph Center, Scot.

Robert Craig Dun, Scotland

George Harry Dupont, England

Charles Alfred Hogg, Tasmania

Charles Kerr, Scotland

James G. Macnaughton, Scotland

W. M'D. Selby, Scotland

St John Stanwell, England

John Steed, England

John Tennant (M.A.), Scotland

John Brown Yeoman, Scotland

1894.

*Class I.*

James Martin Beattie (M.A.),  
New Zealand

Evan John Hewat Fraser, England

George Brooke French, England

Thomas Gibson (M.A.), Ireland

John Rutherford Gilmour, Scotland

Neil MacVicar, Scotland

William Anderson Stephen (M.A.),  
Scotland

James Purves Stewart (M.A.),  
Scotland

*Class II.*

Robert William Beesley, England

Robert Ward Briggs, England

Alexander Keith Campbell, Scot-  
land

Thomas H. C. Derham, England

Charles Francis Lassalle, W. Indies

James Donald Macrae, Scotland

Hezlett Hamilton Marshall, Aus-  
tralia

Arthur Maxwell Nicholson Pringle,  
Scotland

Walter Russell Strapp, Natal

1895.

*Class I.*

Joseph Edward Bowes, England

John Forbes (M.A.), Scotland

William John Garbutt, England

Rhodes Haygarth, England

Andrew Robertson Wilson (M.A.),  
Scotland

William De Wever Wishart, British  
Guiana

*Class II.*

James Gray, Scotland

Albert Lewis Husband, England

Robert MacWilliam Leith, Cape  
Colony

William Lillie, India

David Rankine (M.A.), Scotland

David Waterston (M.A.), Scotland

James Rodger Watson (M.A.,  
B.Sc.), Scotland

1896.

*Class I.*

William Haining Carse, Scotland  
John Eason, Scotland  
Percy James Henderson, Scotland  
Percy Theodore Herring, England  
John George Patrick Murray,  
England  
Alexander Corsar Sturrock (M.A.),  
Scotland

*Class II.*

John Thomas Hewetson, England  
Alexander Petrie Lowe, Scotland  
Arthur David Yule, Scotland

1897.

*Class I.*

Harold Sherman Ballantyne  
(B.Sc.), Scotland

BACHELORS OF MEDICINE AND BACHELORS OF SURGERY (M.B.,  
Ch.B.), WHO HAVE PASSED THE EXAMINATIONS WITH  
HONOURS FROM 1897 TO 1899 BOTH YEARS INCLUDED.

1897.

*Class I.*

Charles Miner Cooper, England  
John Smith Fraser, Scotland  
William Hamilton, England  
James Duncan Slight (M.A.),  
Scotland

*Class II.*

Bertram Cecil Robert Aldren,  
England  
Theodore Robert William Armour,  
Scotland  
John Malcolm, Scotland  
John William Struthers, Scotland

1898.

*Class I.*

William Neish Barker, Scotland  
Archibald Currie M'Gilchrist  
(M.A.), Scotland  
John Henry Rhodes, England  
Alfred Charles Sandstein, New  
Zealand  
Robert Frederick M'Nair Scott  
(B.A.), Scotland

William Frederic Harvey (M.A.),  
India

George Carmichael Low (M.A.),  
Scotland

Edwin Matthew (M.A.), Scot-  
land

*Class II.*

William Finlay (Bach.-ès-Lett.),  
Scotland

James Graham, Scotland

Evan Harries Jones, Wales

Leslie Kingsford, New Zealand

Andrew Hutton Watt, Scotland

1898.

*Class II.*

Charles Chilton (M.A., D.Sc.),  
New Zealand

William Henry Dawson (M.A.,  
B.Sc.), New Zealand

Donald Bremner Waters (M.A.),  
Scotland

*Class II.*

William Bell, England

Stanley Branch, West Indies

John Cameron (B.Sc.), Scotland

George Dick, Scotland

Robert James Dick, Scotland

Duncan Forbes, Scotland

George Edwin James King, England

Henry Wade, Scotland

1899.

*Class I.*

William John Barclay (B.A.), New  
Zealand

John Dixon Comrie (M.A., B.Sc.),  
Scotland

George Lyon, Scotland

Arthur Preston, England

Charles Henry James Watson,  
England

*Class II.*

David Ewart, New Zealand

James John Galbraith, Scotland

John Gray Jack, Scotland	William Moncrieff Paul (M.A.), Scotland
Robina M'Gregor, Scotland	Robert Morison Rowe (M.A.), Scotland
Harry Malcolm MacKenzie, Scot- land	William James Stuart (M.A.), Scotland
James Masson (M.A., B.Sc.), Scot- land	
James Miller, (B.Sc.), Scotland	

BACHELORS OF MEDICINE AND MASTERS IN SURGERY (M.B., C.M.).

29TH JULY 1899.

*Small CAPITALS indicate First-Class Honours.*

*Italics, Second-Class Honours.*

John Brown, Scotland.	Izaak Johannes van der Merwe, Cape Colony.
Dunbar Bovell Berkeley Hughes, British West Indies.	Arthur Lloyd Owen, Wales.
Elsie Maud Inglis, Scotland.	Aneesa Sayba, Syria.
David Jackson M'Adam, Scotland.	Esther Molyneux Stuart, England.
5 Marion Balfour Marshall, Scotland.	10 Emily Charlotte Thomson, Scotland.
	Addie White, Scotland.

21ST OCTOBER.

Violet Grace Seymour Adams, England.	Finlay Munro M'Intosh, Scotland.
Agnes Lloyd Bennett, Aus- tralia.	10 Solomon Harold Richards, England.
Mary Booth, Australia.	Frederick William Rigby, England.
Alexander Waddel Greenhorn Clark, Scotland (with Second-Class Honours).	William Ritchie, Scotland.
5 Thomé Manoel Coutinho, India.	Thomas Barton Unwin, Eng- land.
John Lewis Davies, Wales.	Patrick Denis Whiriskey, Ireland.
Henry Overton Hobson, England.	15 William Ebenezer Williams, Wales.
Evariste Laval, Scotland.	Charles Grey Wotherspoon, M.A. (Oxon.), England.

27TH JANUARY 1900.

Nisar Ahmed, India.

BACHELORS OF MEDICINE AND BACHELORS OF SURGERY  
(M.B. AND Ch.B.).

29TH JULY 1899.

*Small CAPITALS indicate First-Class Honours.**Italics, Second-Class Honours.*

Ivie Aird, Scotland	Harold Edward Coghlan, England
John Alcindor, Trinidad	25 Walter Julius Collinson, Guernsey
Tina M'Culloch Alexander, Scotland	JOHN DIXON COMRIE (M.A., B.Sc.), Scotland
William Joseph Baird, Eng- land	Bertram Joseph Courtney, England
5 Charles Augustus John Albert Balck, Germany	Robert M'Lauchlan Dalziel, India
WILLIAM JOHN BARCLAY (B.A.), New Zealand	William Darling (M.A.), Scotland
Frederick Adolphus Fleming Barnardo (M.A.), England	30 Sydney Letts Dawkins, Aus- tralia
Ernest Francis Bashford, Eng- land	Yervant Alexander Djedjizian (B.A.), Turkey
John Grenville Bell, Australia	<i>David Ewart</i> , New Zealand
10 Percival James Bodington, England	William Ewart, New Zealand
Herbert William Boreham, England	William Reginald Eyton- Williams, England
George Alexander Brogden, England	35 Robert Robertson Fasson, Scotland
William John Dale Bromley, England	Hugh Faulkner, Ireland
Edward Archer Brown, South Africa	David Ferrier, Scotland
15 George Herbert James Brown, India	Ernest George Ford, England
Robert Bruce, Scotland	Alexander Russell Fordyce, Scotland
James Martin Buist, Scotland	40 <i>James John Galbraith</i> , Scot- land
David Albert Callender, Scot- land	Alexander Beith George (M.A.), Scotland
Henry George Carlisle, Eng- land	Hamilton Andrew Hugh Gilmer, New Zealand
20 John Cecil Carr, England	Bridson Kermode Goldsmith, England
Morden Carthew, Scotland	John Hilston Gordon, Scot- land
Lilian Mary Chesney, Eng- land	45 Thomas Beardwood Gornall, England
Clement Somerton Clark, England	



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| <p>Francis Joseph Gray, Scotland<br/>         St Leger Hugh Gribben, New Zealand<br/>         Alfred Hume Griffith, England<br/>         George Haddow, Scotland<br/>         50 Percy William Hampton, Isle of Man<br/>         Frank John Hathaway, England<br/>         George Grey Hay, Scotland<br/>         Arthur Cecil Heath, England<br/>         Patrick Hagart Henderson, Scotland<br/>         55 William Edward Herbert, New Zealand<br/>         Irvine Kempt Hermon, Scotland<br/>         Henry Tristram Holland, England<br/>         Arthur Marson Holmes, England<br/>         James Husband, Scotland<br/>         60 Alice Marion Hutchison, Scotland<br/> <i>John Gray Jack</i>, Scotland<br/>         Walter Timothy James, Wales<br/>         Raymundo Fernandes Jardim, British Guiana<br/>         John Jeffrey, Scotland<br/>         65 William James Jones, Wales<br/>         John Wishart Kerr, Scotland<br/>         David Barty King (M.A.), Scotland<br/>         George Davison Laing, England<br/>         Louis Stephanus Lessing, South Africa<br/>         70 Thomas Hillhouse Livingstone, England<br/>         Ernest Archibald Loch, Scotland<br/>         Jean Léon Louis, Mauritius<br/>         James Lückhoff, Cape Colony<br/>         GEORGE LYON, Scotland<br/>         75 Elizabeth Greer Macdonald, India</p> | <p>John Macrae Macdonald (M.A.), Scotland<br/>         Peter Hay MacDonald, Scotland<br/>         Philip Norman Mackay MacDonald, New Zealand<br/>         William John Morehead M'Farlan, Scotland<br/>         80 John M'Gregor, Scotland<br/> <i>Robina M'Gregor</i>, Scotland<br/>         William Murray Mackay, England<br/>         Maxwell M'Kelvie, Scotland<br/> <i>Harry Malcolm Mackenzie</i>, Scotland<br/>         85 Theodore Charles Mackenzie, Scotland<br/>         Patrick Alexander MacLagan, Scotland<br/>         Laurence Craigie MacLagan-Wedderburn, Scotland<br/>         Thomas Dick M'Laren, Scotland<br/>         George Carlisle M'Leavy, Ireland<br/>         90 Louis William Macpherson, Scotland<br/>         Arthur Graham Martin, Ireland<br/>         Ernest William Martin, England<br/>         James FitzGerald Martin, Ireland<br/>         Ruth Massey, England<br/>         95 <i>James Masson</i> (M.A., B.Sc.), Scotland<br/>         James William Mathewson (B.Sc.), Scotland<br/>         Edward Turner Melhuish, New Zealand<br/>         Edward Gordon Dewar Menzies, Scotland<br/>         Frederick Norton Menzies, Wales<br/>         100 George Henderson Menzies (M.A.), Scotland<br/> <i>James Miller</i> (B.Sc.), Scotland</p> |
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| <p>John Gunn Mitchell, Scotland<br/> Hubert Andrew David Moore, Singapore<br/> James Ramsay Munro, England<br/> 105 James Alexander Murray (B.Sc.), Scotland<br/> William Ansley Murray (B.A.), South Africa<br/> Arthur Wellesley Nankervis, Australia<br/> Andries Christoffel Neethling, Cape Colony<br/> Tennyson Percy Oates, Cape Colony<br/> 110 James Orr, Scotland<br/> Thomas Stewart Allan Orr, Scotland<br/> William Park (M.A.), Scotland<br/> Francis Mardon Parry, India<br/> <i>William Moncrieff Paul</i> (M.A.), Scotland<br/> 115 Alexander Spalding Mackie Peebles, Scotland<br/> Ernest John Peill, England<br/> ARTHUR PRESTON, England<br/> Thomas Arthur Price, Australia<br/> Robert Norman Pringle, Cape Colony<br/> 120 Sidney Clifford Pritchard, England<br/> James Martin Reid, Scotland<br/> William Reid (M.A.), Scotland<br/> Charles Moir Robertson, Mexico<br/> Alfred Arthur Robinson, Trinidad<br/> 125 Thomas Rogerson, Scotland<br/> <i>Robert Morison Rowe</i> (M.A.), Scotland<br/> Archibald Bisset Shed, Scotland</p> | <p>Sutherland Simpson (B.Sc.), Scotland<br/> Alan Butler Slater, England<br/> 130 Victor Edgar Sorapure, Jamaica<br/> Stephen Southall, England<br/> Harry Bird Sproat, Scotland<br/> Bernard Stracey, Scotland<br/> <i>William James Stuart</i> (M.A.), Scotland<br/> 135 William Wood Thom, Scotland<br/> George Nathaniel William Thomas, England<br/> John Andrew Thomson, Scotland<br/> William George Thompson, Ireland<br/> George Thomson, Scotland<br/> 140 Robert Greig Thomson, Scotland<br/> Alexander Kirk Traill, Scotland<br/> Robert Brown Turnbull, Scotland<br/> Alexander Tweedie, Scotland<br/> Charles Samuel Vartan, Palestine<br/> 145 Norman Dunbar Walker, England<br/> CHARLES HENRY JAMES WATSON (B.A.), South Africa<br/> Charles Heron Watson (M.A.), Scotland<br/> Arthur Whittome, England<br/> Angus Whyte, Scotland<br/> 150 Alfred Stuart Whytock (M.A.), Scotland<br/> Hector Douglas Wilson, Australia<br/> Andrew Hamilton Wood, Scotland<br/> Edward M'Killop Young, Scotland</p> |
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21ST OCTOBER 1899.

John Anderson, Scotland	George Mackie, Scotland
John Alexander Black, Ireland	Robert Archibald Macneill, Scotland
Anthony Parry Lennon Brown, England	William Macniven, Scotland
Alfred Ernest Burroughs, Scotland	15 James Miller, England
5 Thomas Cathcart Caldwell, Ireland	Sydney Herbert Morris, England
George James Rogerson Carruthers, Scotland	William Purves, Scotland
David Fenton, Scotland	Henry George Pearce Raeburn, Scotland
Arthur Stanley Frank, England	Frederick George Ralston, Scotland
John Fullarton, Scotland	20 Thomas Edward Richards, England
10 Cecil Hubert Gostwyck Gostwyck, England	David Robertson, Scotland
Alfred Nicolle de Gruchy, Jersey	John Merry Ross, Scotland
	Charles Edward Smith, New Zealand
	William George Williams, Wales

27TH JANUARY 1900.

Michael M'Farlane W. J. Meikle.

## Fellowships, Scholarships, Bursaries, and Prizes in Medicine.

### I.—FELLOWSHIPS.

*See note under Scholarships, page 173.*

#### I.—THE SYME SURGICAL FELLOWSHIP.

This Fellowship, of the annual value of about £100, and tenable for two years, is open to award to the Bachelor of Medicine and Master in Surgery, or Bachelor of Medicine and Bachelor of Surgery, of not more than three years' standing, who, in the opinion of the Examiners, has passed a creditable examination for these degrees, for the best Thesis on a Surgical subject giving evidence of original research, or practical talent, whether such Thesis be given in for Graduation or otherwise. The next award may be at the Graduation Ceremonial in July 1901. *See Deed of Foundation, at p. 310 of CALENDAR for 1872-73.*

1899. *Carel Hendrik Kruger, M.D.*

## II. THE GOODSIR MEMORIAL FELLOWSHIP.

This Fellowship was founded in 1872 by the subscribers to the fund for a memorial of the late Professor John Goodsir for the encouragement of the study of Anatomy and Physiology. It is of the annual value of about £100, tenable for two years, and is open to all Graduates in Medicine of the University of not more than three years' standing at the time of the competition, and to Licentiates of the Colleges of Physicians or Surgeons of Edinburgh of a like standing, who have attended within the University the same number of classes as are required for the Degrees of M.B. and Ch.B. It is awarded for the best Essay or Treatise containing results of original investigations in Anatomy, Human and Comparative, either Normal or Pathological, or in Experimental Physiology; Candidates may be examined *viva voce* or otherwise on the subject of their Essays or Treatises if the Examiners shall deem this desirable.

The next award may be made in July 1901, and competing Dissertations must be lodged with the Professor of Anatomy not later than the 30th April previously. See Deed of Foundation at p. 314 of CALENDAR for 1872-73.

1899. *Percy Theodore Herring, M.D.*

## III.—THE LECKIE-MACTIER FELLOWSHIP.

The Leckie-Mactier Fellowship, of the annual value of £80, is awarded to Bachelors of Medicine of not more than three years' standing, and is tenable for three years. The examinations comprise written reports and commentaries on medical, surgical, and gynecological cases in the University Wards in the Royal Infirmary, and written examinations in Midwifery, Medical Jurisprudence, and Public Health; also oral examinations in Medicine, Surgery, Midwifery, Medical Jurisprudence, and Public Health. Every holder of the Fellowship must, before the expiry of his tenure, transmit to, and if required read publicly in presence of the Medical Faculty, a communication embodying the result of original observation or historical research in some department of medicine. Next appointment may be made in November 1901. See Deed of Foundation at p. 365 of CALENDAR for 1880-81.

1898. *C. M. Cooper, M.B., Ch.B.*

## IV. FREELAND BARBOUR FELLOWSHIP.

This Fellowship is of the value of £100, and is open to award, in each alternate year, to the Bachelor of Medicine and Bachelor of Surgery who has gained the highest collective marks in Anatomy, Physiology, and Pathology in the Professional Examinations, and who is prepared to devote not less than one year to original research in Midwifery or diseases of women, in any of the Laboratories or Practical

Departments of the University of Edinburgh. The next award may be made in July 1902. *See* Deed of Foundation at page 517 of *CALENDAR* for 1899-90.

1900.

#### V. ALLAN FELLOWSHIP IN CLINICAL MEDICINE AND CLINICAL SURGERY.

This Fellowship, of about £40, is awarded annually, after competitive examination of the six candidates for the degrees of M.B., C.M., or M.B., Ch.B., who, after having attended in the University of Edinburgh the necessary qualifying courses in Clinical Medicine and Clinical Surgery, shall obtain the highest percentage of marks in these subjects at the final examination for these degrees. *See* Deed of Endowment and Regulations, page 833 of *CALENDAR* for 1899-1900.

### II.—FUNDS FOR RESEARCH, &c.

#### I. THE WILLIAM DICKSON TRAVELLING FUND.

This is a fund for the purpose of assisting Graduates of any Faculty, of not more than three years' standing, to travel for the purpose of study or research. For particulars, see page 187.

#### II. THE EARL OF MORAY'S BEQUEST FOR THE PROMOTION OF ORIGINAL RESEARCH.

All Graduates and other Members of the University, "or other persons who have given satisfactory proof of General Education and fitness to engage in some special study or research," may apply for grants from this fund. In so far as the subject of the Research admits, the investigation shall be conducted in the Buildings of the University. For further particulars, see page 187. *See* Regulations, page 428 of *CALENDAR* for 1897-98.

#### THE SWINEY LECTURESHIP ON GEOLOGY.

This Lectureship is in the patronage of the Trustees of the British Museum, is of the annual value of £144, and is open to Graduates in any of the Faculties of this University who have obtained their Degrees after Examination. For further particulars, see page 276.

### III.—SCHOLARSHIPS.

#### I.—ETTLES SCHOLARSHIP IN MEDICINE.

This Scholarship was founded in 1868 by Miss Mary Ettles of Inverness, and is of the annual value of about £31, 5s. It is awarded annually to the Bachelor of Medicine and Master in Surgery of the

University of Edinburgh, whom the Faculty of Medicine may consider the most distinguished of that year. *See* Deed of Foundation, at page 242 of CALENDAR for 1868-69.

1899. *William John Barclay, M.B., Ch.B.*

## II.—SIBBALD MEDICAL SCHOLARSHIP.

This Scholarship is of the annual value of £40. *First*, The Scholarship is bestowed on, and held by, a Student in the Faculty of Medicine in the University of Edinburgh, *who does not hold any other Scholarship or Bursary*, and is tenable for three years, during each year the Scholar must complete an *Annus Medicus* required from Candidates for the degree of Bachelor of Medicine. *Second*, It is bestowed upon the Student obtaining the highest place by Competitive Examination, and is open to all Candidates who have not previously been Students of Medicine in any other School or University, and who have attended Medical Classes in the University of Edinburgh, for *not less* than one Winter and one Summer Session, and for *not more* than one Winter and two Summer Sessions. The Competition Examination is in Chemistry, Botany, Natural History, and Physic, and is conducted in such manner as the Senatus Academicus may, in concurrence with the Trustees, prescribe. The next competition may take place in October 1900. Application to be made to Messrs MACKENZIE, INNES & LOGAN, W.S., 23 Queen Street, Edinburgh.

1897. *Robert Wilson Buchanan, M.A.*

## III.—THOMSON SCHOLARSHIP.

The Thomson Scholarship, value £40, tenable for four years, open to matriculated students commencing their first Winter Session in Medicine. The examination is on Botany, Zoology, and Elementary Mechanics. The Scholarship is awarded to the candidate who shall obtain the highest number of marks in the examination. The Trustees, however, reserve power to themselves to withhold the appointment should none of the candidates obtain a sufficiently high percentage of the marks in the examination. Candidates must send in their names to the agents for the Trust before the first day of October in the year in which there is a competition for the Scholarship. Students of the name of Thomson or Traquair, or those who are natives of the town or county of Dumfries, or of the city of Edinburgh, have a preference. The next appointment may be made in October 1902. For other particulars, application to be made to Messrs Traquair, Dickson & Maclaren, W.S., 11 Hill Street, Edinburgh.

1898. *Thomas Nicol.*



## IV.—COLDSTREAM MEMORIAL MEDICAL MISSIONARY SCHOLARSHIP.

The Coldstream Memorial Medical Missionary Scholarship was founded in memory of the deceased John Coldstream, M.D., F.R.C.P.E. Value about £20, and tenable for five years. The holder must be a first year's Medical Student, who intends to devote himself to the life of a Medical Missionary at home or abroad. He must be approved of by the awarders, and pass the Preliminary Examination before beginning his studies. A preference is given to students connected with the Edinburgh Medical Missionary Society. A full copy of the conditions can be had on applying to John P. Coldstream, W.S., care of Messrs Mill, Bonar & Hunter, W.S., 15 Hill Street, Edinburgh. Next award may be in October 1900. See Conditions in CALENDAR for 1879-80, p. 357.

1896. *John Alfred Smith.*

## V.-XI.—VANS DUNLOP SCHOLARSHIPS.

*Seven Scholarships*, of £100 each, tenable for three years. Not more than one at a time can be held by the same person. The successful candidates for each of these Scholarships will be required to continue their medical studies in this University during their tenure of their Scholarships, and to graduate as M.B. and Ch.B. See Excerpt from Will of Dr Vans Dunlop, p. 380 of CALENDAR for 1880-81.

V. *One* is awarded to the Candidate who, at either the March or the preceding October Medical Preliminary Examination, has obtained the highest number of marks in the Subjects required to enable him to appear for a Professional Examination, provided (1) that he has not already passed the said Preliminary Examination; and (2) that, in the event of his having passed an equivalent examination and presenting himself for the Medical Preliminary Examination, he shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examination of this University. The next award will be made in March 1901.

1899. *Malcolm Campbell, M.A.*

VI. *One* is awarded at the end of the First Winter of Medical Study to the Student who, after having attended for the first time within the University a Systematic Course of Lectures on each of the subjects of Chemistry, Anatomy, and Physics, and who has not previously attended any course in Chemistry, or Anatomy, or Physics, which qualifies for Degrees in Medicine, or for a Licence in Medicine or Surgery, shall obtain the highest number of marks in an Examination in these subjects, specially conducted for the purpose. The Subjects of Examination in Anatomy will include the Skeleton; Joints; Muscular System; Heart and Great Vessels; General Arrangement of the Nervous System;

Position of the Thoracic and Abdominal Viscera. The next award may be made at the end of March 1902.

1899. *Thomas Peebles* and *G. S. Skinner*—equal.

VII. *One* is awarded at the end of the first Summer Session of Medical Study to the Student who, after having attended for the first time within this University a Systematic Course of Lectures on each of the subjects of Botany and Zoology, and who has not previously attended any course in Botany or Zoology which qualifies for Degrees in Medicine, or for a Licence in Medicine or Surgery, shall obtain the highest number of marks in an Examination in these subjects specially conducted for the purpose. The next award may be made at the end of July 1902.

1899.

VIII. *One* is awarded at the end of the Second Winter of Medical Study to the Student who, after having attended within the University for the first time a Systematic Course in each of the subjects of Physiology and Surgery, and who has not previously attended a Course of Physiology or Surgery which qualifies for Degrees in Medicine, or for a Licence in Medicine or Surgery, shall obtain the highest number of marks in an Examination in these subjects specially conducted for the purpose. The Subjects of the Examination in Physiology will embrace the Histology and Physiology of the Simple Tissues, and of the Organs concerned in Nutrition. The whole subject of Nutrition will be included, and also Animal Heat. The next award may be made at the end of March 1902.

1899. *A. B. Ross.*

*Prox. access.*, *J. A. Ellerbek* and *B. P. Watson.*

IX. *One* at the beginning of the Fourth Winter Session of Medical Study to the Student who, after having attended within the University the Systematic and Practical Instruction in the subjects of Anatomy and Physiology, and, having passed the Second Professional Examination, shall obtain the highest number of marks in an Examination in these subjects specially conducted for the purpose. The successful Candidate will be required to continue his studies in this University during the first two years of his tenure of the Scholarship, and at the end of the second year to graduate as M.B. and Ch.B.; and during the remaining year to prosecute original investigation in one or other of the Research Laboratories in the Faculty of Medicine. The next award may be made in October 1902.

1899. *Andrew Hunter.*

X. *One* at the beginning of the Fourth Winter Session of Medical Study to the Student who, after having attended within the University a Systematic Course in the Subject of Materia Medica (including Pharmacology), and, having passed the Second Professional Examination, shall obtain the highest number of marks in an Examination in that subject specially

conducted for the purpose. The successful Candidate will be required to continue his studies in this University during at least two years of his tenure of the Scholarship, and at the end of the second year to graduate as M.B. and Ch.B. ; and during the remainder of his tenure of the Scholarship to devote himself to original investigation in the *Materia Medica* Laboratory in the Faculty of Medicine. The next award may be made in January 1903.

1900.

XI. *One* to be awarded at the beginning of the Fifth Winter Session of Medical Study, to the Student who, after having attended within the University, the Systematic and Practical Courses in Pathology and the Systematic Courses in Medical Jurisprudence, and in Public Health, and having passed the Third Professional Examination, shall obtain the highest number of marks in an Examination in these subjects specially conducted for the purpose. The successful Candidate will be required to continue his studies and graduate as M.B. and Ch.B. in this University, during the first year of his tenure of the Scholarship, and to devote himself during the remainder of his tenure to original investigation in one or other of the Research Laboratories in the Faculty of Medicine. The next award may be made in October 1902.

1899. *R. A. Ross.*

#### XII.—THE MURCHISON MEMORIAL SCHOLARSHIP.

This Scholarship consists of the annual proceeds of about £1000, awarded in alternate years in London and Edinburgh, for proficiency in Clinical Medicine. Candidates must be registered medical students who have attended for not less than five nor more than seven years at Hospitals and Classes at Edinburgh or London, recognised by the University of Edinburgh or the Royal College of Physicians of London. The competition in 1901 will be held in Edinburgh.

1899. *Alfred Charles Sandstein, M.B., Ch.B.*

#### XIII.—STARK SCHOLARSHIP IN CLINICAL MEDICINE.

This Scholarship, of £112, less expenses, and tenable for one year, is for the encouragement of the study of Clinical Medicine. It is open to competition among all matriculated students of the University who are or have been in attendance at the University Class of Clinical Medicine, and to Bachelors of Medicine of the University of not more than eighteen months' standing who have attended this class. It is open every second year alternately with the competition in Edinburgh for the Murchison Memorial Scholarship. The Examination, oral and in writing, includes (a) Examination of Patients ; (b) Questions on Therapeutics and Pathology ; (c) Examination of Specimens. Each holder of the Scholarship is required to devote his time in the wards of the Professors of Clinical Medicine to original investigation or other work directly connected with Clinical Medicine ; to report his proceed-

ings every three months to the Professors of Clinical Medicine ; and, within a reasonable time after the expiry of his tenure of the Scholarship, to present to the Faculty of Medicine a written statement of the results of his investigations or other work. It cannot be held along with any other Fellowship, Scholarship, or Bursary in a Scottish University. The next Competition will take place in July 1902. *See* Deed of Foundation at p. 427 of *CALENDAR* for 1884-85.

1898. *George Edwin James King, M.B., Ch.B.* (resigned).  
*E. F. Bashford.*

#### XIV.—BUCHANAN SCHOLARSHIP.

This Scholarship, of the value of about £40, founded by Mrs Jane Jack or Buchanan, Moray Place, Edinburgh, is awarded annually to the Graduate in Medicine of the year who has shown the highest proficiency in Midwifery and Gynecology, as evidenced in (1) the Class Examinations of Midwifery and Diseases of Women and Children ; (2) the Records kept by him of cases treated in the Gynecological Section of the University Class of Clinical Medicine in the Buchanan Ward of the Royal Infirmary, and (3) the Final Examination in Medicine for the Degree of M.B. The Scholar is required to act as non-resident Clinical Clerk in the University Gynecological Ward, and to give assistance in the Examination of Class Exercises. *See* Deed of Foundation, p. 707 of *CALENDAR* for 1894-95.

1899. *William John Barclay, M.B., Ch.B.*

#### XV.—THE JAMES SCOTT SCHOLARSHIP.

This Scholarship, founded by Mrs Mary Ann Scott or Thomson of Hawick, of the value of £32, 10s., is awarded annually at the Graduation Ceremonial in Medicine in August for proficiency in Midwifery. The award is based upon the results of the Competitive Examinations in the Class of Midwifery, upon the character of the records of Cases of Midwifery attended by the Candidate at the Royal Maternity and Simpson Memorial Hospital, and upon the position obtained by him at the Final Examination for Degrees in Medicine. The Scholarship is for one year, but may, in special circumstances, be continued for another year. *See* Deed of Foundation, p. 410 of *CALENDAR* for 1883-84.

1899. *Frederick A. F. Barnardo, M.B., C.M.*

#### XVI., XVII.—HOPE PRIZE SCHOLARSHIPS.

Two Hope Prize Scholarships in Chemistry, each of the annual value of about £30. For particulars, *see* under Scholarships in Science.

#### XVIII.—THE MOUAT SCHOLARSHIP IN THE PRACTICE OF PHYSIC.

This Scholarship, of the value of about £55, 4s. (partly in money and partly in the form of a bronze medallion), is awarded annually at the

Graduation Ceremonial in Medicine, to the graduate in Medicine who shall have taken the highest place in the competitive Examinations in the Class of Practice of Physic (Medicine) in this University, and in the Oral and Written Examinations in that subject in the Final Examination.

The Scholar shall be bound during his year of tenure to pursue the study of Medicine either as resident in an Infirmary or Hospital, or in the University of Edinburgh, or other University or Medical School at home or abroad, and to present, at the close of such year, to the Professor of Practice of Physic, or to the Senatus Academicus, a Report of the work he has done in such Infirmary, Hospital, University, or Medical School. The money part of the Scholarship will only be paid on the Senatus receiving a certificate from the Dean of the Faculty that the conditions of the Scholarship have been duly fulfilled.

1899. *John Jeffrey, M.B.*

#### XIX.—MACKAY SMITH SCHOLARSHIP IN CHEMISTRY.

This Scholarship is of the annual value of £25, tenable for two years, and is open for competition to Students who have attended the Class of Chemistry in this University. The successful Candidate is bound to attend the Class of Chemistry, or to prosecute the study of Chemistry in the University during at least one year of his tenure of the Scholarship, in such way as the Senatus Academicus may direct or approve. The next Examination will take place in July 1902.

1900.

#### XX.-XXIII.—CRICHTON SCHOLARSHIPS FOR RESEARCH.

Four Scholarships, each of the value of £100, tenable for one year, with power of re-appointment for a second and for a third year, are open in rotation in the subjects of Anatomy, Physiology, Materia Medica, and Pathology, for the prosecution of Research by Graduates who have been Students of this University for not less than four years. The Scholarships in Materia Medica and Pathology will be open in 1900. Candidates are required to submit a sufficient description of the work they propose to undertake to the Dean of the Faculty of Medicine on or before 1st September. The Examination is both written and practical, bearing on Research Work. See Regulations, page 750 of CALENDAR for 1895-96.

1899. *David Waterston, M.B., C.M. (Anatomy).*  
*J. J. Galbraith, M.B. (Physiology).*

#### XXIV.—HOULDSWORTH SCHOLARSHIP.

This Scholarship, founded by the Houldsworth Trustees for the purpose of promoting Research in Pharmacology in the Department of Materia Medica in the University, is of the annual value of about £46,



and tenable for one year, with power to re-elect for a second, or even a third year if good work is being done by the scholar. It is awarded to a Graduate in, or Student of Medicine of, the University, after such examination, competitive or otherwise, as may be deemed necessary. The scholar must, during his tenure, produce such evidence of his progress in Pharmacological investigation as may be required by the Professor of Materia Medica. For Deed of Foundation, see page 421 of CALENDAR for 1897-98.

1899. *C. H. Kruger, M.B., C.M.*

### III.—BURSARIES.

*See note under Bursaries, page 157.*

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1864	Dr Abercromby, Cape Town.	£20 0 0	1		£20 0 0	Governors of George Heriot's Trust.
II.	1871	Dr J. R. Sibbald's Trustees.	About 150 0 0	5	3	30 0 0	Trustees of Dr J. R. Sibbald.
III.	1873	Dr Mackie's Trustees.	60 0 0	2	2	30 0 0	Professors of Fac. of Med. in Univ., Edin.
IV.	1873	Mr Grierson of Ogcastle's Trustees.	60 0 0 20 0 0	3 1	1 1	20 0 0 10 0 0 10 0 0	} Senatus.
V.	1878	Dr Andrew Thomson	200 0 0	8	4	25 0 0	
VI.	1878	William Mackenzie	32 10 0	2	1	16 5 0	Trus. of Dr Thomson.
VII.	1878	John Aitken Carlyle	56 0 0	2	1	28 0 0	Senatus.
VIII.	1882	Mrs Ronald of Liverpool	80 0 0	2		40 0 0	Senatus.
IX.	16—	George Heriot. Re-modelled 1887	480 0 0 About	6	4	30 0 0	Governors of George Heriot's Trust.
X.	1890	Major Robert Orr Crichton of Lynn. M.D.	500 0 0	10	4	50 0 0	Senatus Academicus.
XI.	1809	Dr Donald Grant, London.	180 0 0 About	2	4	90 0 0 About	Dr Grant's Trustees.
XII.	1846	John Jamieson, Edinburgh.	26 0 0	1	4	26 0 0	Principal and Two Professors.
XIII.	1883	Wm. Renton, Edinburgh.	20 0 0	1	1	20 0 0	Professors of Mathematics, Natural Philosophy, Chemistry, and Political Economy.
XIV.	1886	Richard Allan, Feuar, Kelso.	90 0 0	3	3	About 30 0 0	Trustees of R. Allan.
XV.	1889	Daniel Maclaurin, London.	62 10 0	1	4	62 10 0	Town Council.
XVI.	1897	M'Cosh (Graduates).	...	1	1	153 0 0	Senatus.
XVII.	1897	M'Cosh (Medical).	...	1	1	11 11 4	Senatus.



I. *Abercromby Bursary*.—Open by competition, in the event of more than one candidate coming forward, to Students who have been educated in George Heriot's School, and have finished their course as Heriot Bursars, to aid them in further prosecution of their studies for any of the learned professions. Students in the Faculty of Medicine to be always preferred. Candidates are referred to the Treasurer of the Heriot Trust, 20 York Place, Edinburgh, before 15th September.

II. *Sibbald Bursaries*.—These Bursaries, each tenable for three years, are available to Students in the Faculties of Arts, Medicine, Law, or Divinity, entering the University who have not previously attended any University in the United Kingdom or elsewhere, *and who do not hold any other Bursary or Scholarship*, but no objection to a Candidate that he has, during the previous Summer Session, attended any of the Classes in the University of Edinburgh required by the Faculties of Medicine or Law. The examination is the same as the Preliminary and Bursary Examination in the Faculty of Arts at the commencement of each Winter Session. Application to be made to Messrs Mackenzie, Innes & Logan, W.S., 23 Queen Street, Edinburgh, before 15th September.

1898. *R. W. Buchanan.*

III. *Mackie Bursaries*.—These Bursaries are awarded to Students of Medicine of the University, one of which is open to Students who have completed their First Annus Medicus, and the other to Students who have completed their Second Annus Medicus, and who are, in the opinion of the Faculty of Medicine, in such pecuniary circumstances as to require assistance. In the event of no appointment having been made to either Bursary on any occasion when it is vacant, the Senatus may, on the recommendation of the Faculty of Medicine, appoint any Candidate to the vacant Bursary who has completed either his first or his second *Annus Medicus* and who otherwise satisfies the requirements of tenure. *Bursars 1898, first year, A. K. Baxter and J. M. Johnstone—equal; second year, George A. Jolly.*

IV. *Grierson Bursaries*.—Candidates from the parishes of Crawford or Leadhills, about to commence their Medical Curriculum, who have passed in the University of Edinburgh a satisfactory examination in the preliminary subjects required by the Regulations for Graduation in Medicine, who have been diligent students, and who require pecuniary aid to enable them to pursue their studies, have a preference. In the case of more candidates than one, the Bursary will be awarded to the best qualified, on examination in the subjects above referred to.

Failing the appointment of preferential candidates, the Bursaries will be tenable for periods of one year only, in manner following, viz. :—*One* will be awarded to the student who, not having completed his twenty-first year, shall pass the best examination of the year in the subjects of the preliminary examination, provided (1) that he has not already passed the said preliminary examination; and (2) that, in the event of his having passed an equivalent examination and presenting himself for the Medical Preliminary Examination, he shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examination of this University. *One* will be awarded by competitive examination to the student beginning the Second Winter Session, who having already passed the Preliminary Examination required for Graduation in Medicine, shall

pass the best examination in the subjects of Chemistry, Botany, Natural History, and Physics. *One* will be awarded by competitive examination to the student beginning the Third Winter Session who, having already passed the First Professional Examination, shall pass the best examination in the subjects of Anatomy and Physiology. *One* will be awarded by competitive examination in *Materia Medica* at the beginning of the Fourth Winter Session. *One* will be awarded by competitive examination in Pathology at the beginning of the Fifth Winter Session. *Bursars*—1899, *first year*, *L. F. Dawson*; *second year*, Not awarded; *third year*, *H. H. Roberts*; *fourth year*, *Henry L. Spark*; *fifth year*, *Arthur A. Martin*.

V. *One Thomson Bursary* is awarded at each of the Preliminary Examinations held in Spring and Autumn, to the Candidate who, being about to commence his Curriculum, takes the highest place in the Medical Preliminary Examination: provided (1) that he has not already passed the said Preliminary Examination; and (2) that, in the event of his having passed an equivalent examination and presenting himself for the Medical Preliminary Examination, he shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examination of this University. Students of the name of Thomson or Traquair, or those who are natives of the town or county of Dumfries, or of the city of Edinburgh, have a preference. Candidates must enter for the Preliminary Examination before 19th September 1900, and 1st March 1901 for the Autumn and Spring Examinations respectively, and those claiming a preference must intimate their names to Messrs Traquair, Dickson & Maclaren, W.S., 11 Hill Street, Edinburgh, the agents for the Trust (from whom further particulars may be obtained), at least one clear week before the Examinations. *Bursars*—1899-1900, *H. R. Macintyre*; *James Dundas*.

VI. *Mackenzie Bursaries*, open to Students of Anatomy Classes, of any year, who shall display the greatest industry and skill in Practical Anatomy during the Winter Session. See CALENDAR for 1879-80, p. 353. *Bursars*—1900, *Daniel Allison* and *W. C. Morton*—equal; *John Lovett* and *William MacLaren*—equal.

VII. *John Aitken Carlyle Bursaries*, one is awarded at the end of every Winter Session to a first year Student for proficiency shown in the ordinary class examinations in Anatomy and Chemistry, the other to a second year's Student for proficiency shown in the ordinary class examinations in Anatomy and Physiology. See CALENDAR for 1879-80, p. 350. *Bursars*—Senior, *J. M. Dewar*; Junior, *James Craw*.

VIII. *The Anderson Bursaries* have been founded by Mrs Ronald of Liverpool, and will come into operation on the death of an annuitant. For Deed of Foundation, see CALENDAR 1882-83, p. 396.

IX. *The Heriot Bursaries* are for Students unconnected with the Hospital, entering upon a regular Curriculum with a view to graduation. For remodelled scheme, see CALENDAR, 1887-88, p. 498. For subjects of Examination, &c., see under Bursaries open in Faculty of Arts.

X. *Crichton Bursaries*.—Two of these Bursaries are open annually—one in Autumn and one in Spring—to Students entering the Faculty of Medicine of this University who have been born in Scotland. The subjects of Examina-

tion are Latin, Greek, French, German, Mathematics, Logic, and Moral Philosophy. Each Bursary is of the annual value of £50, tenable for four years, provided the Bursars continue Students of the Medical Faculty of this University. See Excerpt from Deed, p. 540 of CALENDAR for 1891-92, and Regulations, p. 749 of CALENDAR for 1895-96. *Bursar*—1897, *Charles M. Campbell*; 1898, *D. D. Paton*. 1899—*Henry Speirs*, *R. Donaldson*, *M.A.* 1900—*John MacNab*.

XI. The *Grant Mortification* is for Students of the University of Edinburgh, of the name of Grant. The holders may attend the Arts, Medical, Divinity, or Law Classes. Application for information may be made to Messrs Mackenzie, Innes & Logan, W.S., 23 Queen Street, Edinburgh.

XII. The *Jamieson Bursary* is for the benefit of the sons of schoolmasters, farmers, mechanics, and labourers, and other persons born and residing within any one of the following parishes—viz., Crawfordjohn, Crawford, united parishes of Lamington and Wandell, united parishes of Wiston and Roberton, Culter and Biggar. The Bursar may attend Classes in any of the Faculties.

XIII. The *Renton Bursary*, founded by the late William Renton. Candidates must attend one or more of the classes of Natural Philosophy, Mathematics, Chemistry, or Political Economy, and must show that they require pecuniary aid. It cannot be held by any one under the age of sixteen or above twenty-one, or with another Bursary of the value of £30 or upwards. The Examination is in English and Mathematics, as for the First Year Open Bursaries in Arts.

XIV. *Allan Bursaries*.—These Bursaries are available to Students attending classes in any of the Faculties of Arts, Science, Medicine, or Law, in the University of Edinburgh, and are tenable for three years or for such part of that period as the Bursar shall remain a Student at the University. In nominating Candidates for presentation to the Bursaries, care will be given to prefer such as have been born in the parish of Kelso, provided they are qualified by their previous education for entering the University. Apply to P. Stormonth Darling, Esq., writer, Kelso.

XV. *Maclaurin Bursary*. This Bursary, tenable for four years, is by the will of the founder to be called the "Maclaurin Bursary," and is restricted to Students of the Founder's name of Maclaurin (or in Gaelic orthography "Maclalhrin"). It may be held in any of the Faculties. See Deed of Foundation, p. 544 of CALENDAR for 1890-91.

XVI., XVII. *The M'Cosh Graduate's Bursary and M'Cosh Medical Bursary*. Each Bursary is tenable for one year, during which the holder will be required to prosecute Study or Research in a Medical School or Medical Schools of Europe, it being in the discretion of the Faculty of Medicine to award both Bursaries to the same person. Applications for the Bursaries must be made to the Dean of the Faculty of Medicine not later than the end of the third week of July, and must be accompanied with a statement of the name or names of the Medical School or schools intended to be visited, of the time proposed to be spent at each school, and of the nature of the study or special work proposed to be engaged in. Bachelors of Medicine and Bachelors of Surgery are eligible for appointment during one year after receiving these degrees. In considering the claims of candidates, the Faculty of Medicine will take into account not only their professional attainments and ability, but also the knowledge they possess of foreign languages; and it shall be in the option of the Faculty to satisfy themselves with regard to

this knowledge by the examination of candidates. Candidates who already hold a Bursary, Scholarship, or Fellowship will not be disqualified except in cases where the Bursary, Scholarship, or Fellowship requires, as a condition of tenure, the prosecution of Original Research, or some other condition which may be interfered with by the holding of a M'Cosh Bursary. Holders of the Bursaries will be required at the end of each three months to transmit to the Dean of the Faculty of Medicine a report of the manner in which they are pursuing their studies, or of the progress being made in any special work in which they are engaged.

#### IV.—PRIZES.

*See note under Bursaries, page 157.*

##### I.—NEIL ARNOTT PRIZE FOR EXPERIMENTAL PHYSICS.

This Prize, of the value of about £37, 10s., presented to the University by Dr Neil Arnott of London, is awarded annually in October to the Candidate who shall pass with the greatest distinction the Ordinary Examination in Natural Philosophy for the Degree of M.A., with such additional Examination in Experimental Physics as the Examiners may require. Candidates must have been Students of Medicine of this University during either a summer or a winter session; and the successful candidate must continue a Student of Medicine at this University during the next Winter Session, failing which, the prize will be forfeited and assigned to the competitor next in merit. No student can appear for examination after the completion of his third *annus medicus*; and no candidate shall be allowed to offer himself more than once.

In the event of a competitor, qualified as above, not coming forward, the prize will be awarded to a Candidate for a Degree in Arts who shall pass with most distinction the ordinary examination in Natural Philosophy. *See* Deed of Foundation at p. 274 of CALENDAR for 1870-71.

1899. *John Tait.*

*Prox. access.*, William Newlands.

##### II.—THE ROBERT WILSON MEMORIAL PRIZE.

This Prize was founded by John Wilson of South Bantaskine, in memory of his son, Robert Wilson, and is of the value of £7, 16s. in money and a bronze medal. It is annually awarded at the close of the Winter Session to the student in the senior Chemistry Class who takes the highest honours. *See* Deed of Foundation at p. 351 of CALENDAR for 1876-77.

1900. *George A. Carse.*



### III.—THE ELLIS PRIZE FOR PHYSIOLOGY.

This Prize consists of the proceeds of a sum of £500 bequeathed by the late Daniel Ellis, Esq., to the Principal and Faculty of Medicine of the University of Edinburgh, accumulated for three or five years. The present value is about £30 per annum. It is awarded for the best Essay or Treatise on some subject of Animal or Vegetable Physiology proposed by the Faculty for competition to Students or Graduates of not more than five years' standing.

1898. *Alexander Corsar Sturrock, M.A., M.D., C.M.*

### IV.—PRIZES FOR THESES.

Gold Medals, each of the value of £10, are awarded annually on the day of graduation to Doctors of Medicine whose Theses are deemed worthy of that honour.

### V.—THE WIGHTMAN PRIZE IN CLINICAL MEDICINE.

This Prize of £12 was founded by Mrs E. Wightman, in memory of her son, J. T. Wightman, M.B., C.M., and is annually awarded at the close of the Summer Session to the student attending the Class of Clinical Medicine for the best Dissertation on any subject presented by the Faculty of Medicine, or for the best Report and Commentary on cases which have during the previous Winter and Summer Sessions been treated in the University Clinical Wards in the Royal Infirmary. Three months' notice of subject is given by the Faculty of Medicine. *See Deed of Foundation at p. 348 of CALENDAR for 1876-77.*

The Prize, which is open to members of the Clinical Class of either Winter 1899-1900 or Summer 1901, will be awarded for the best report and commentary on cases. The Essays to be given in before 6th July.

1898. *Robert William Mackenna, M.A., M.B., Ch.B.*

### VI.—THE BEANEY PRIZE.

This Prize of £32, 10s., was founded in 1878 by James George Beaney, Esq. of Melbourne. It is awarded at the Graduation Ceremonial in Medicine to the Graduate in Medicine and Surgery of the year who, having attended within the University courses on Anatomy, Surgery, and Clinical Surgery qualifying for Graduation, obtains the highest number of marks during his examinations in these subjects for the Degrees of Bachelor of Medicine and Master in Surgery. The Senatus has the power of withholding the Prize in the event of no Student passing the above examinations with sufficient merit. *See Deed of Foundation at p. 371 of CALENDAR for 1878-9.*

1899. *Arthur Preston, M.B., Ch.B.*

### VII.—THE CAMERON PRIZE.

This Prize was founded in 1878 by the late Dr Andrew Robertson Cameron, of Richmond, New South Wales, with a sum of £2000. The regulations were remodelled by the Educational Endowments (Scotland)

Commission, and the annual proceeds, which, after defraying the necessary expenses, amount to about £80, may be awarded annually to a person who in the course of the five years immediately preceding has made any highly important and valuable addition to Practical Therapeutics. The Prize-man is required to deliver a lecture or course of lectures on the addition to Practical Therapeutics so made by him, or to publish an account of such addition in such manner as the Senatus may prescribe. The prize will not be awarded if, in the opinion of the Senatus, no addition to Practical Therapeutics has been made within the said period of five years of sufficient importance and value to justify the awarding of the prize. The prize is awarded annually at the Graduation Ceremonial in August. See Remodelled Regulations, p. 497 of CALENDAR for 1888-89. 1899. *Major David Bruce (R.A.M.C.), M.B., C.M., Edin., for his discoveries of the cause of Malta Fever and of the Tsetse Disease, and the great value of these discoveries in their prevention and treatment.*

#### VIII.—THE DOBBIE SMITH PRIZE IN BOTANY.

This prize, which consists of a Gold Medal, is open to competition each alternate year to all Matriculated Students of the year of the award, for an Essay on a Botanical subject. The subject of the next competition is an original investigation "On the Structure, Development, and Life History of any British Flowering Plant"; and the memoir is to be accompanied with a series of illustrative specimens. Competing Essays to be sent to the Dean of the Faculty of Medicine on or before the 1st July 1901. The prize will be awarded to the successful competitor at the Graduation Ceremonial in July 1901.

1899.

#### IX.-XIX.—THE GUNNING VICTORIA JUBILEE PRIZES.

Dr Gunning, of Edinburgh and Rio de Janeiro, has founded Eleven Post-Graduation Prizes of the value of £50 each, viz.:—(1) The Monro prize for Anatomy; (2) The Bell prize for Physiology; (3) The Edward Forbes prize for Zoology, &c.; (4) The Hutton Balfour prize for Botany; (5) The Joseph Black prize for Chemistry; (6) The Christison prize for Materia Medica; (7) The Lister prize for Surgery; (8) The Gregory prize for Practice of Physic; (9) The John Thomson prize for Pathology; (10) The Simpson prize for Obstetrics; (11) The Alison prize for Forensic Medicine and Public Health. Candidates must be either Bachelors of Medicine or Bachelors of Science of this University of not more than three years' standing. The prizes will be awarded with the approval of the Senatus for (1st) either (a) Competitive Essays written specially for the prizes, or (b) Theses submitted for Graduation; or (2nd) for original research conducted under supervision of the Professor in the department in which the prize is awarded. Two prizes will be awarded



annually in the following rotation, viz. :—Public Health and Forensic Medicine, Anatomy, Chemistry, Practice of Physic, Physiology, Botany, Surgery, Pathology, Zoology, Materia Medica, and Obstetrics. Competitive Essays are required to be lodged with the Dean of the Faculty of Medicine on or before 30th April of the year in which each prize is to be awarded, and the successful competitors will be announced annually at the Graduation Ceremonial in Medicine.

1899. *James Petrie Hill, B.Sc. (Zoology).*

*William Thomas Ritchie, M.D. (Pathology).*

## XX.—ANDERSON HENRY PRIZE.

The Prize was founded by Isaac Anderson Henry of Woodend, and consists of the proceeds of a sum of £300 accumulated for three years. It is awarded for the best and approved essay on a botanical subject proposed by the Professor of Botany, the Curator of the Royal Botanic Garden, and the President of the Botanical Society of Edinburgh, for competition to students in the Class of Botany in the University of Edinburgh, during any of the three years preceding the date of the award. The next award may be made in August 1901. Competing Essays to be sent to the Dean of the Faculty of Medicine on or before 1st July 1900.

1898.—Not awarded.

## XXI.—MILNER FOTHERGILL MEDAL IN THERAPEUTICS.

This Medal, of the value of about £20, is awarded biennially. It is open for competition to Graduates in Medicine of the University, who have been members of the Class of Materia Medica in the University, for the best essay which shall include a description of original research made by the Candidate on a Pharmacological or Therapeutic subject, preference being given to a subject relating to Dietetics. *See Deed of Foundation, p. 542 of CALENDAR for 1891-92.* The next award may be made at the Graduation Ceremonial in August 1901. Essays to be lodged with the Professor of Materia Medica on or before 30th April 1901.

1899.

## XXII.—PATTISON PRIZE IN CLINICAL SURGERY.

This Prize, of about £10, 10s., is awarded annually to the Student of the University Class of Clinical Surgery who shall write the best Report and Commentary on cases treated in the University Surgical Wards during the Academic Year. The Essays to be given in before 6th July.

1899. *Ernest F. Bashford, M.B., C.M.* } equal.  
*Hubert Dunbar Shepherd.*

## FELLOWSHIPS, SCHOLARSHIPS, BURSARIES, AND PRIZES OPEN TO COMPETITION IN THE FACULTY OF MEDICINE IN 1900-1901.

For further information, and for information regarding other Scholarships, Fellowships, Bursaries, and Prizes, see above, where full information regarding the conditions of tenure and the values are given.

### FELLOWSHIPS.<sup>1</sup>

*See note under Scholarships, page 173.*

1. *The Syme Surgical Fellowship*, No. I., page 405. The next award may be made at the Graduation Ceremonial in July 1901. Theses to be lodged on or before 30th April.

2. *The Goodsir Memorial Fellowship*, No. II., page 406. The next award may be made in July 1901, and competing essays or treatises must be lodged with the Professor of Anatomy not later than the 30th April previously.

3. *The Leckie-Mactier Fellowship*, No. III., page 406. Names of Competitors to be entered on or before 15th October.

4. *The Allan Fellowship in Clinical Medicine and Clinical Surgery*, No. V., page 407.

### FUNDS FOR RESEARCH, &c.

1. *The William Dickson Travelling Fund*, No. I., page 407.

2. *Earl of Moray Fund for the Promotion of Original Research*, No. II., page 407.

### SCHOLARSHIPS.<sup>1</sup>

1. *The Vans Dunlop Scholarship in Preliminary Subjects*, No. V., page 409. The next award will be made in April 1901. The successful candidate will be required to continue his medical studies in this University during his tenure of the Scholarship, and to graduate as M.B. and Ch.B.

2. *The Mouat Scholarship in Practice of Physic*, No. XVIII., page 412.

3. *The Murchison Memorial Scholarship*, No. XII., page 411. The competition in 1901 will take place in Edinburgh.

4. *The Buchanan Scholarship*, No. XIV., page 412.

5. *The James Scott Scholarship*, No. XV., page 412.

6. *The Ettles Scholarship in Medicine*, No. I., page 407.

7, 8. *Two Hope Prize Scholarships*, No. XVI., page 412.

<sup>1</sup> N.B.—The values of the Fellowships, Scholarships, Bursaries, and Prizes are subject to variation consequent on the rise or fall of the rate of interest, &c. No Candidate will be allowed to hold the same Fellowship, Scholarship, Bursary, or Prize more than once.

9, 10. *Two Crichton Scholarships for Research in Materia Medica and Pathology*, No. XX., page 413.

11. *Sibbald Medical Scholarship*, No. II., page 408. The next competition will take place in October 1900. Application to be made to Messrs Mackenzie, Innes & Logan, W.S., 23 Queen Street, Edinburgh, before 1st October.

12. *The Houldsworth Scholarship*, No. XXIV., page 413. The next competition may take place in January 1901, the date to be afterwards announced. Candidates to give in their names to the Dean of the Faculty of Medicine on or before 27th December 1900.

13. *The Coldstream Memorial Medical Missionary Scholarship*, of about £20 a year, tenable for five years, for a first year Medical Student who intends to devote himself to the life of a Medical Missionary at home or abroad. He must be approved of by the awarders, and pass the Medical Preliminary Examination in September-October 1900. A preference is given to students connected with the Edinburgh Medical Missionary Society. A full copy of the conditions can be had on applying to John P. Coldstream, Esq., W.S., care of Messrs Mill, Bonar & Hunter, W.S., 15 Hill Street, Edinburgh.

## BURSARIES.<sup>1</sup>

*Town Council Bursaries.*—Candidates for Bursaries in the gift of the Town Council, a number of which are vacant (and some of which may be held in the Faculty of Medicine), are referred to the "*City Clerk, Council Chambers, Edinburgh*," to whom early application should be made.

1, 2. *Two Sibbald Bursaries*, No. II., page 415.

3, 4. *Two Thomson Bursaries*, No. V., page 416.

5-9. *Five Grierson Bursaries*, No. IV., page 415. The competition for the Second, Third, Fourth, and Fifth year Bursaries will take place on Thursday 11th, Friday 12th, and Saturday 13th October 1900, at hours to be afterwards announced. Names of Candidates to be entered on or before 1st October.

10, 11. *Two John Aitken Carlyle Bursaries*, No. VII., page 416.

12, 13. *Two Mackenzie Bursaries*, No. VI., page 416.

14. *Renton Bursary*, No. XIII., page 417.

15, 16. *Two Crichton Bursaries*, No. X., page 416.

17. *The M'Cosh Graduates' Bursary* of £153, and *M'Cosh Medical Bursary*, Nos. XVI. and XVII., page 417.

18, 19. *Two Mackie Bursaries*, No. III., page 415. The next awards may be made at the commencement of the Winter Session 1900-1. Applications to be made to the Dean of the Faculty of Medicine on or before the 1st October 1900.

20-23. *Four Buchanan Bursaries*, may be held in the Faculty of

<sup>1</sup> See footnote, page 422.

Medicine. See under Bursaries in the Faculty of Arts, open in October 1900.

*Competitors for the above Fellowships, Scholarships, and Bursaries, excepting those awarded for the subjects of Preliminary Examination, must have studied the subjects of Examination at the University of Edinburgh. No Fellowship, Scholarship, or Bursary, with the exception of the Ettles Scholarship, can be held along with any other Fellowship, Scholarship, or Bursary.*

#### PRIZES.<sup>1</sup>

*The Medical Faculty Medals.*—Gold Medals are given on the day of Graduation to Doctors of Medicine whose Theses are deemed worthy of that honour.

1. *The Neil Arnott Prize*, No. I., page 418.
2. *The Beaney Prize*, No. VI., page 419.
3. *The Cameron Prize*, No. VII., page 419.
- 4, 5. *The Gunning Victoria Jubilee Prizes in Public Health and Forensic Medicine and Anatomy*, No. IX., page 420. Essay, Theses, or descriptions of researches are required to be lodged with the Dean of the Faculty of Medicine on or before 30th April 1901.
6. *The Wightman Prize*, No. V., page 419. The Essays to be lodged with the Dean of the Faculty of Medicine on or before the second Monday in July.
7. *The Pattison Prize*, No. XXII., page 421. The Essays to be lodged with the Dean of the Faculty of Medicine on or before the second Monday in July.
8. *The Ellis Prize in Physiology*, value about £75, open for competition to Students and to Graduates of not more than five years' standing, may be awarded for the best Essay or Treatise on "The connections of the Central Cortex with lower level centres." Essays to be lodged with the Dean of the Faculty of Medicine on or before 30th April 1901.
9. *The Milner Fothergill Medal in Therapeutics*, No. XXI., page 421. The next award may be made at the Graduation Ceremonial in August 1901. Essays to be lodged with the Professor of Materia Medica on or before 30th April 1901.
10. *The Dobbie Smith Gold Medal in Botany*, No. VIII., page 420.
11. *The Robert Wilson Memorial Prize*, No. II., page 418.
12. *The Lord Rector's Prize*, No. I., page 191.
13. *Straits Settlements Prize in Tropical Diseases*, of the value of about £25, open for competition to Students of Medicine, or Graduates of Medicine of not more than two years' standing, for a Research on

<sup>1</sup> See footnote, page 422.

Tropical Disease, will be awarded at the Graduation Ceremonial in July 1901. Competing Essays to be lodged with the Dean of the Faculty of Medicine on or before 30th April 1901.

14, 15, 16. *The Gray Prize Essays*, Nos. 7, 8, and 9, page 192.

### LECTURESHIP.

*The Swiney Lectureship on Geology*, value £144 per annum, tenable for five years, is open to Graduates of the University of Edinburgh. It is in the patronage of the Trustees of the British Museum.

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Bursars in the Faculty of Medicine must annually attend at least two of the Classes necessary for the Degrees of M.B. and Ch.B., and must present themselves at the Examinations necessary for these Degrees.

Each Bursar must present a Certificate, signed by the Dean, attesting his regular attendance on the proper Classes in the Faculty on each occasion on which he applies to the Factor for a payment.

Certificates, in terms of this regulation, will be given to Bursars, by the *Dean of the Faculty of Medicine*, after 14th November; also at the end of the Session. In applying to the Dean for the Certificate, Bursars must present their Class Cards for the Session, and also all Class Certificates and Honours Certificates obtained since the last payment. Payments are made by the University Factor, Mr Henry Cook, W.S., 61 North Castle Street, Edinburgh, on and after 14th November for the Martinmas payments, and on and after 18th May for the Whitsunday payments,—between 10 and 3 o'clock.

N.B.—*Bursars, Scholars, and Fellows who desire to resign should at once announce this to the Dean and to the Factor. They must apply to the Factor for the instalments due to them within three months after they have become payable, otherwise they will be regarded as having resigned.*

THOMAS R. FRASER, M.D., LL.D.,  
*Dean of the Faculty of Medicine and Professor  
of Materia Medica.*

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## Faculty of Music.

Dean—Professor NIECKS, Mus. D.

STUDENTS who do not intend to graduate in Music may, without matriculating or passing any Preliminary Examination, attend any of the Classes on payment of the Five Shillings University Entrance-Fee, besides the Class Fees.

Those desiring to graduate must pass the Preliminary Examination, and must Matriculate before enrolling in any Class.

The Classes, open both to men and women students, will meet as undernoted, except during the Christmas Vacation, *i.e.* from Friday, 21st December 1900, to Tuesday, 8th January 1901; and will close on 19th March.

### Programme of Classes.

WINTER SESSION, 1900-1901.

PROFESSOR NIECKS.

Lectures, Theoretical and Practical Instruction, and Concerts, in the Winter Session of 1900-1901 :—

#### 1. HISTORY OF MUSIC.

From the beginning of the Christian era to the present day, more especially of the 15th, 16th, and 17th Centuries.

Once a week (Thursdays, 3-4), beginning 18th October. Twenty Lectures. Fee, One Guinea.

#### 2. MUSICAL ANALYSIS.

The Orchestra and Orchestral Music—History, Description, and Analysis.

Once a week (Mondays, 3-4), beginning 15th October. Twenty Lectures. Fee, One Guinea.

#### 3. HARMONY.

Twice a week (Tuesdays and Fridays, 3-4), beginning 16th October. Fee, Two Guineas.

#### 4. ADVANCED HARMONY.

Twice a week (Tuesdays and Fridays, 4-5), beginning 16th October. Fee, Two Guineas.

#### 5. COUNTERPOINT AND COMPOSITION.

Once a week (Mondays, 4-5), beginning 15th October. Fee, Two Guineas.



## 6. SERIES OF HISTORICAL CONCERTS.

Fee for these Concerts, Half-a-Guinea. Those attending any of the Music Classes are admitted free.

## EXAMINERS FOR DEGREES.

Professor Niecks, Sir Alexander C. Mackenzie, Mus. D., and the Examiners in English, French, Italian, and German for M.A. Degree.

MUSIC CLASS-ROOM LIBRARY.—The Reading Room of this Library is open for the consultation and study of musical works and books on music to those attending the Music Classes, daily, except Saturday, from 2 to 5 o'clock.

MUSEUM.—The Museum of Musical and Acoustic Instruments is open to Music Students.

MATRICULATION FEES, &c., page 27.

UNIVERSITY ENTRANCE FEE FOR NON-MATRICULATED STUDENTS, page 29.

# Regulations for Graduation in Music.

I. Two degrees in Music are conferred by this University, viz., Bachelor of Music (Mus. B.), and Doctor of Music (Mus. D.).

## I. PRELIMINARY EXAMINATION.

II. 1. Every Candidate for the degree of Mus. B. must pass a preliminary examination in :—(1) English, including Geography and British History ; (2) Elementary Mathematics or Elementary Physics or Logic ; (3) any two of Latin, Greek, French, German, and Italian, but one at least must be a modern language.

2. The extent and standard of the preliminary examination is determined by the Senatus.

3. A degree in Arts not being a degree *honoris causâ tantum*, in any University of the United Kingdom, or in any Colonial or Foreign University, specially recognised for the purpose by the University Court, after consultation with the Senatus, exempts from the preliminary examination ; and the Senatus has power to determine what examinations, other than those for the degree mentioned, will be accepted in whole or in part in place of the preliminary examination.

## II. BACHELOR OF MUSIC.

### *University Attendance.*

III. Candidates for the degree of Mus. B. must attend, in the University of Edinburgh during a whole Winter Session, a course or courses of instruction extending in all to not less than eighty Lectures, and including a course on the History of Music

## III. FIRST PROFESSIONAL EXAMINATION.

IV. There is a First Professional Examination in Music in the following subjects :—

- (1) Singing or performing upon some Musical Instrument.
- (2) Reading at Sight.
- (3) Elements of Music, including Musical Modes, and Scales, Notation, Measure, and *Tempo*.
- (4) Harmony in not more than four parts.
- (5) Elementary Counterpoint.
- (6) Form: Sonata, Rondo, Fugue, and Minor Structures.
- (7) Outlines of the History of Music.

The Ear Test will be applied to every Candidate.

## IV. SECOND PROFESSIONAL EXAMINATION.

V. There shall be, at least one year after the candidate has passed the First Professional Examination, a second Professional Examination in Music and in Literature in the following subjects :—

- (1) One of the following languages not already taken in the preliminary examination—French, German, Italian.
- (2) Rhetoric and English Literature (including Prose Composition and a knowledge of Metrical Rules).
- (3) Harmony in not more than five parts.
- (4) Advanced Counterpoint.
- (5) Canon in two parts, and Imitation and Fugue in not more than four parts.
- (6) Form (Description of Structure and Character of Musical Forms, and Analysis of Musical Works).
- (7) Elements of Instrumentation (Compass of the Orchestral Instruments, and of the Organ and Pianoforte).
- (8) Critical Knowledge of certain prescribed Scores.
- (9) Playing at Sight from easy Vocal and Instrumental Scores, and from Figured Bass.
- (10) The History of Music.
- (11) Acoustics in so far as connected with the Theory of Music, and Physiology of the Vocal Organs.

Each Candidate will also be required to submit the following exercises composed by himself :—

- (a) A Solo Song with Pianoforte Accompaniment.
- (b) A Four-part Vocal Composition.
- (c) An Instrumental Composition (other than a Dance) for the Pianoforte or Organ, or for any Stringed or Wind Instrument with Pianoforte or Organ Accompaniment.

The extent and standard of examination is fixed by the Senatus. The examination is partly written and partly oral and practical.

## V. DOCTOR OF MUSIC.

V. Bachelors of Music of this University, of not less than three years' standing, and not less than twenty-five years of age, may offer

themselves for the degree of Mus. D. under the following regulations:—The degree is given in three Departments, those of (1) Composers; (2) Executants; (3) Theorists or Historians; and Candidates may present themselves in one or more Departments.

VI. (1) Candidates for the degree of Mus. D. as Composers must submit a prescribed number of Vocal and Instrumental Compositions in the larger forms (such as Oratorio, Opera, Cantata, Symphony, Sonata, Overture). Each work must be the original and unaided composition of the Candidate, and must be accompanied by a declaration to that effect signed by the Candidate.

(2) Candidates will be examined in the following subjects:—

(a) The more recondite Contrapuntal Forms—Fugal Writing in more than four parts, &c.

(b) Instrumentation, including prescribed books on the subject.

(c) The works of the great Composers from Palestrina onwards.

VII. (1) Candidates for the degree of Mus. D. as Executants will be required to show their special skill in the execution of Solo and ensemble works in different styles. The works will be selected partly by the Candidates and partly by the examiners.

(2) The Candidates will be examined in sight-reading, and must give evidence of their power of playing Orchestral Scores, and will be required to invent Transitions and to modulate from one Key and Piece to another. They will further be required to pass an examination on the History and Literature of their special instrument, and on the method of teaching that instrument.

VIII. (1) Candidates for the degree of Mus. D. as Theorists or Historians must present one or more treatises on Theoretical or Historical subjects, which must be the result of research and original thought, not mere abstracts or compilations of existing works. They must be accompanied by a declaration signed by the Candidate that they are his own unaided work.

(2) Candidates will also be required to pass an examination (a) in the Theory and (b) in the History of Music.

The examination will be on a higher standard in the subject which the Candidate selects as his specialty.

IX. The examiners for the degree of Mus. D. are the same as for the degree of Mus. B.

It is competent to the University Court of the University of Edinburgh, after consultation with the Senatus, to modify from time to time the provisions as to curriculum hereinbefore contained, in case such modification shall be rendered desirable.

X. (1) The degree of Mus. D. may be conferred *honoris causâ tantum*.

(2) The honorary degree of Mus. D. will not be conferred by the Senatus on any person unless recommended by the Faculty of Music in a reasoned representation, submitted in writing to the Senatus, and

considered and approved by the Senatus at a special meeting at which not less than two-thirds of the members were present.

#### PRELIMINARY EXAMINATION.

The Examination in English, Latin, Greek, Mathematics, French, German, and Italian, or such other language as the Senatus may approve, is the same as the Preliminary Examination in English, Lower Latin, Lower Greek, Lower Mathematics, French, German, and Italian, or other language approved by the Senatus, for the Degree in Arts; and the Examination in Logic and Elementary Physics is of the same standard as the Preliminary Examination in these subjects for Degrees in Medicine, under the Old Regulations. The subjects are denoted in the Time-Table of the Preliminary Examinations for the Degree in Arts by the figure 4.

Candidates for Examination must apply at the Matriculation Office, University (Old) Buildings, for schedules, which must be completed and returned along with the fees, not later than 18th September 1900 and 1st March 1901 for the autumn and spring Examinations respectively.<sup>1</sup>

Candidates applying for information regarding the Preliminary Examination will be supplied with copies of the Regulations for the Preliminary Examinations for Degrees in Arts and in Medicine, which give the outlines and dates, &c., for the Preliminary Examination for Degrees in Music.

#### FEEES.<sup>1</sup>

Preliminary Examination for each appearance, 10s. 6d.

Degree of Mus. B. is £10, 10s., divided as follows:—

First Professional Examination . . . . .	£3	3	0
Second Professional Examination—Literary part . . . . .	1	1	0
Do. Do. —Musical part . . . . .	3	3	0
For the Diploma ( <i>payable at least two days before Graduation</i> ) . . . . .	3	3	0

Candidates who fail pay a fee of 10s. 6d. for each subject in which they are admitted to re-examination.

Candidates may pay the fees personally, or transmit them to T. GILBERT, University, Edinburgh, by *Post Office* or *Postal Orders*, or by *Bank Drafts*, crossed Union Bank of Scotland (Hunter Square Branch), Edinburgh, but not by cheques on private accounts.

<sup>1</sup> If names are not entered, and fees are not paid, on or before the stated dates, a late-entry fee of ten shillings must be paid before the Candidate can be admitted to examination.

DATES OF DEGREE EXAMINATIONS.

1901.

March 11. Names to be given in, Certificates shown, and fees paid, on or before this date.

FIRST PROFESSIONAL EXAMINATION.

- „ 25. Mon. Singing, Playing, Reading at Sight, and Ear Test, at 11 ; Harmony, at 2.  
„ 26. Tu. Counterpoint, at 10 ; Elements of Music, at 2.  
„ 27. Wed. History of Music, at 10 ; Form, at 2.

SECOND PROFESSIONAL EXAMINATION.

1901.

- March 25. Mon. Playing at Sight from Scores, at 10 ; Instrumentation and Critical Knowledge of Scores, at 11 ; Harmony, at 2.  
„ 26. Tu. Counterpoint, at 10 ; Canon and Fugue, at 2.  
„ 27. Wed. History, at 10 ; Form, at 2.  
„ 28. Th. Acoustics and Physiology of the Vocal Organs, at 10 ; Rhetoric and English Literature, at 2.

GRADUATES IN MUSIC.

THE DEGREE OF BACHELOR OF MUSIC (MUS.B.).

13th April 1898.

*Matthew Shirlaw.*

14th April 1899.

*Agnes Johnston.*

|

*Christina Struthers.*

THE HONORARY DEGREE OF DOCTOR OF MUSIC (MUS.D.).

1895.

Ebenezer Prout, B.A.

1896.

Sir Alexander Campbell Mackenzie.

1899.

Hugo Riemann, Ph.D., Dozent at the University of Leipzig.  
Sir Herbert Stanley Oakeley, D.C.L., LL.D.

BUCHER SCHOLARSHIP.

By the will of Signor Theophile Bucher, his trustees were enjoined to pay over the residue of his estate, amounting to about £4000, to the University, for the purpose of founding one or more Scholarships in Music to be held by any young men born in Scotland, who may

shew a natural talent for music and wish to make it their profession, for the purpose of improving their education, and enabling them to prosecute the study of the science and art of Music in Italy, Germany, and France.

The Subjects of Examination for the Scholarship include Harmony, Rhythm, and Counterpoint, and the competition is open to young men between the ages of sixteen and twenty-five inclusively, who have been born in Scotland, and who either are, or have been, enrolled as students in the Faculty of Music in this University. The value shall not, after deducting the expenses of management and of examination, exceed £120 in any one year, the interest in excess of that sum to be added to the capital to form a second Scholarship. It is tenable for three years, and may be extended to a period not exceeding two years, during which time the scholars must prosecute the study of the science and art of Music in Italy, Germany, and France, as the Senatus, on the recommendation of the Faculty of Music, may determine. The Scholarship may be open in 1902. See Scheme of Administration, page 709 of CALENDAR for 1894-95.

1899. *John Petrie Dunn.*

FREDERICK NIECKS, Mus.D.,  
*Dean of the Faculty of Music.*



JOINT BOARD OF EXAMINERS FOR THE  
SCOTTISH UNIVERSITIES.

A Joint Board of Examiners, which controls and supervises the Preliminary Examinations, is appointed annually by the University Courts of the four Scottish Universities, and holds office from 1st February to 31st January in the succeeding year. The Board sits for a year at each University in rotation, viz. :—Edinburgh, Glasgow, Aberdeen, St Andrews. The Principal of the University at which the Board sits is Chairman for the time, and the Secretary of the University Court is Convener.

Members of the Board, which meets at St Andrews for the current year (1st February 1900 to 31st January 1901) :—

*Chairman*—Principal Donaldson, LL.D., St Andrews.

*Convener*—John E. Williams, Esq., University, St Andrews.

*Appointed by Edinburgh University*—Professor Saintsbury, LL.D. (English); Francis R. Jamieson, M.A. (Classics); James Goodwillie, M.A., B.Sc. (Mathematics and Dynamics); Charles Sarolea, D.Litt., Ph.D. (Modern Languages).

*Appointed by Glasgow University*—James Colville, M.A., D.Sc. (English); Professor Ramsay (Classics); Professor Jack (Mathematics and Dynamics); Mons. F. J. Amours (Modern Languages).

*Appointed by Aberdeen University*—Professor Grierson, M.A. (English); Professor Harrower (Classics); Andrew Munro, M.A. (Mathematics and Dynamics); Alexander Cran, M.A. (Modern Languages).

*Appointed by St Andrews University*—Easton S. Valentine, M.A. (English); John Mackenzie, M.A. (Classics); Professor Butler (Mathematics and Dynamics); Mons. Alfred Mercier, L.-ès-L. (Modern Languages).

The Joint Board from time to time issues supplementary regulations for the Preliminary Examination, and sets the

papers which are common to all the Scottish Universities. It also gives instructions to the Examiners with the view to secure adequate and uniform examination.

#### PRELIMINARY EXAMINATION IN ARTS AND SCIENCE.

In addition to the Regulations, Section III. to V. inclusively, pages 105-108, the Joint Board have made the following Supplementary Regulations:—

1. ENGLISH will include Grammar, Composition, Literature, History, and Geography.

(a) *Grammar* will include Analysis, Parsing, Derivation, and Correction of sentences.

(b) *Composition* will include an Essay and Paraphrasing.

(c) *Literature* will comprise a knowledge of certain prescribed books of two or three writers. Questions requiring a general knowledge of the life and works of the greater writers will not be set; but one or two questions may be set, giving an opportunity to candidates who have read widely in English Literature to show their knowledge.

The books prescribed are:—For October 1900—1. Shakespeare, *Richard III.* 2. Thackeray, *Esmond.* 3. Scott, *Marmion.* For April and October 1901—1. Shakespeare, *King Lear.* 2. Scott, *Old Mortality.* 3. Macaulay's two Essays on William Pitt, Earl of Chatham (pub. Macmillan).

(d) *History* for Sept.-Oct. 1900 will include a knowledge of the period from 1603 to the Union of the Parliaments in 1707. For March-April and Sept.-Oct. 1901 it will include a knowledge of one of the three following periods, questions in each of which will be set in each examination, namely:—The Outlines of the History of both England and Scotland; (a) from the Roman occupation to 1603; (b) from 1603 to the Union of the Parliaments in 1707; (c) from the Union of the Parliaments in 1707 to the Reform Bill of 1832.

(e) *Geography* will include a general knowledge of the Geography of the World, and a special knowledge of the Geography of the British Empire.

2. The LATIN Examination on the Higher Standard will be—Translation, Prose Composition, Grammar and Sentences.

3. The GREEK Examination on the Higher Standard will be—Translation, Sentences, and Grammar.

The passages for Translation both from Greek and Latin will include Prose and Verse.

4. The LATIN Examination on the Lower Standard will be—Translation and Parsing, Prose Composition, Grammar and Sentences.

5. The GREEK Examination on the Lower Standard will be—Translation, Sentences, and Grammar.

In the Latin and the Greek papers, both on the Higher and Lower Standards, Candidates are required to satisfy the Examiners both in composition and in translation.

6. In the Examination in MATHEMATICS on the Higher and Intermediate, and on the Lower Standards, each question in Geometry will consist of two parts, of which one will be an easy deduction or illustrative exercise on the proposition set as book work.

The papers in Mathematics on the Higher Standard and on the Intermediate Standard will be devoted to the various subjects comprised in them as nearly as possible in the following proportions:—Two-fifths to *Geometry*, two-fifths to *Algebra* (including Arithmetic, if thought desirable), and one-fifth to *Trigonometry*.

Candidates for the Higher Standard may obtain full marks by doing correctly about two-thirds of the questions set in each subject; but the Examiners will be entitled to reject a candidate who makes in any subject less than a certain minimum of the marks allotted to that subject.

The pass mark for Candidates on the Intermediate Standard is fixed with reference to the total number of marks assigned to questions which fall under the syllabus of the Intermediate Standard; but such Candidates will receive credit for any question they may answer.

The paper in MATHEMATICS on the Lower Standard will be devoted to the various subjects comprised, in as nearly as possible the following proportions:—Four-ninths to *Geometry*, three-ninths to *Algebra*, and two-ninths to *Arithmetic*.

Candidates may obtain full marks by doing correctly about two-thirds of the questions set in each subject; but the Examiners will be entitled to reject a Candidate who makes in any subject less than a certain minimum of the marks allotted to that subject.

7. The paper on DYNAMICS will be directed to test the Candidate's knowledge of the fundamental principles of the subjects included in it. As far as possible each question will consist of two parts, one of which will be a numerical or other simple illustrative example of the principle with which the other part of the question deals.

About one-seventh of the paper will be devoted to *Kinematics*, and the remainder of the paper will be assigned to *Kinetics*, *Statics*, and *Hydrostatics* in as nearly as possible equal proportions.

Candidates may obtain full marks by doing correctly about two-thirds of the questions set in each section of the paper.

Dynamics shall include the following:—

(1) KINEMATICS.—Displacements, velocities, and accelerations of a moving point, with their compositions and resolutions. Translations of a rigid body. Relative velocity of two moving points.

(2) KINETICS.—The laws of motion, momentum, force, energy, work—their measures in the British and C.G.S. systems of units. Change of units. Rectilinear motion of a particle under the action of constant forces. Free motion of a body under gravity, including projectiles. Atwood's machine. Impulsive forces. Direct impact of smooth spheres.

(3) STATICS.—Composition and resolution of co-planar forces. Theory

of co-planar couples. Conditions of equilibrium of forces in one plane. Centre of mass. Friction. Machines. Application of the principle of work to machines.

(4) **HYDROSTATICS.**—Definitions of *solid, fluid, liquid, gas*. Viscosity. Measure of the pressure at a point of fluid. Law of equable transmission of pressure. Laws of variation of pressure in heavy liquids. Resultant pressure of a heavy liquid on a plane surface, including the centre of pressure of a plane surface. Principle of Archimedes. Experimental determination of the densities of solids, liquids, and gases. Atmospheric pressure. The barometer. Boyle's Law. The siphon, pumps for liquids, air-pumps, and the diving-bell.

Questions may be set which involve the Trigonometry of right-angled triangles.

8. For the Examination in FRENCH and GERMAN—

Two papers will be set, both in French and German; an hour and a half being allowed for the first paper, and two hours for the second; the first paper will contain a passage for translation from English into French or German, with some short sentences of an idiomatic character; the second paper will contain a set of grammatical questions, two passages for translation into English (one in Verse, one in Prose), and a selection of Literary or Philological questions, from which the candidate will be allowed to choose *one only*.

The Questions on Literature will be confined year by year to certain groups of authors, as in the following scheme:—

*French.*—In October 1900 (*XVIIIth Century*)—Regnard, Lesage, Massillon, Saint Simon, Voltaire, Montesquieu, Vauvenargues, Marivaux, Jean Jacques Rousseau, Diderot, Buffon, Beaumarchais, Bernardin St Pierre, Mirabeau. In April and October 1901 (*XIXth Century*)—Chateaubriand, Mme. de Staël, Lamartine, Victor Hugo, Alfred de Musset, Alexandre Dumas, George Sand, Balzac, Prosper Mérimée, Guizot, Thiers, Mignet, Michelet.

*German.*—In October 1900—Goethe, Schiller, Klinger, Leng, Schubert, Arndt, Körner, Rückert. In April and October 1901—Jean Paul, the Schlegels, Novalis, Tieck, Arnim, Brentano, Grillparzer, Heine, Uhland.

Candidates who having taken in *Latin* or *Greek* the Examination on the Higher Standard have failed to pass on that Standard, but have obtained a percentage of marks equivalent to a pass on the Lower Standard, may be held by the Board to have passed the Examination on the Lower Standard.

#### EXAMINATIONS EXEMPTING FROM THE PRELIMINARY EXAMINATION IN ARTS AND SCIENCE.

The Joint Board accept the following Examinations as exempting from the Preliminary Examination in Arts and Science, either *wholly* or *in part*:—

1. A Degree in Arts or in Science, not being an Honorary Degree, in any of the Universities of the United Kingdom, shall exempt from the Preliminary Examination in Arts or in Science, as the case may be.

2. For the Preliminary Examination in Arts and Science the Higher and Honours Grade Leaving Certificates of the Scotch Education Department in Latin, Greek, and Mathematics, will be accepted as equivalent to the Higher Standard in each of these subjects, as prescribed by the Arts Regulations, and the Lower Grade Certificate to the Lower Standard; the Higher and Honours Grade Leaving Certificate in English, in Modern Languages, and in Dynamics will be accepted as equivalent to the standard prescribed for each of these subjects by the Arts Regulations.

3. A Certificate of having passed in the Honours or First Division in English in the London University Matriculation Examination will be accepted as equivalent to English in the Arts and Science Preliminary Examination; and the Joint Board also accepts for the Preliminary Arts and Science Examination (1) London University Matriculation Mathematics as equivalent to Lower Mathematics; (2) London University Matriculation Mechanics as equivalent to Dynamics; and (3) London University Intermediate Mathematics as equivalent to Intermediate and Higher Mathematics.

4. *Oxford University Senior Local Examinations*, if passed with distinction, will be accepted as exempting *pro tanto* in Higher Latin, Higher Greek, French, German, and Intermediate Mathematics; also in English, provided that in English the Candidate has passed with distinction in division 1, and in division 3, or 4, or 5; a pass without distinction, will be accepted *pro tanto* for Lower Latin and Lower Greek, and Lower Mathematics.

5. *Oxford University Higher Examination for Women* will be accepted as exempting *pro tanto* for the Arts and Science in the case of Higher Latin, Higher Greek, English, and Lower Mathematics; and if with distinction, for French and German and Higher Mathematics.

6. *Cambridge University Local Examinations* :—

(a) *Junior Locals*. The pass with distinction will be accepted for Lower Mathematics, provided the Candidate has passed in Books I., II., and III. of Euclid, and in Quadratic Equations.

(b) *Senior Locals*. The pass will be accepted as exempting *pro tanto* for Lower Latin, and Lower Greek, and for Higher Mathematics; and if with distinction, for English, Higher Latin, Higher Greek, and Modern Languages.

7. *Cambridge University Higher Local Examinations* will be accepted *pro tanto*.

8. *Oxford and Cambridge Schools Examination Board*.

*The Lower Certificate* will be accepted for Lower Mathematics, pro-



vided the candidate has passed in three books of Euclid, and as far as Quadratic Equations in Algebra.

*Higher Certificate.* The pass will be accepted for Lower Latin, Lower Greek, and Lower Mathematics, provided the latter includes Elementary and additional Mathematics; if with distinction, will be accepted for Higher Latin, Higher Greek, French, German, and Higher Mathematics.

9. *Victoria University.* The Preliminary Examination will be held as exempting from the Preliminary proper, but not from the Examination required for admission to a graduating class in any language. (See Section iv., Sub-sections (2) (3) of Regulations, pages 106 and 107.)

10. For the Preliminary Examination in Arts and Science, the Deans of the Faculties concerned are empowered to accept *pro tanto* such examinations qualifying for entrance to recognised Colonial and Foreign Universities (although not included in the list of Equivalent Examinations issued by the Joint Board) as they consider to be sufficient, but on condition that they afterwards report each case to the Senate and to the Joint Board as soon as possible.

### PRELIMINARY EXAMINATION FOR DEGREES IN MEDICINE.<sup>1</sup>

REGULATIONS FOR THE PRELIMINARY EXAMINATION FOR DEGREES  
IN MEDICINE AND SURGERY, SUPPLEMENTARY TO SECTIONS  
III.-VI. INCLUSIVELY, PAGES 357 AND 358 HEREOF, ABRIDGED  
FROM THE REGULATIONS OF THE JOINT BOARD.

The papers set in Latin, Greek, and Mathematics are the same as those set on the Lower Standard in these subjects in the Arts and Science Preliminary Examination.

These are defined in the Regulations relating to the Arts and Science Preliminary, as follows:—

The *Latin*<sup>2</sup> Examination on the Lower Standard will be—Translation and Parsing, Prose Composition, Grammar, and Sentences.

The *Greek*<sup>2</sup> Examination on the Lower Standard will be—Translation, Sentences, and Grammar.

In the Latin and Greek papers, candidates are required to satisfy the Examiners both in composition and in translation.

*Mathematics* on the Lower Standard will comprise:—

- (1) Arithmetic, including Vulgar and Decimal Fractions, Proportion, Percentage, Square Root, Simple Interest.
- (2) Algebra, including Fractions, Factors, Square Root, Equations of the First Degree, Simultaneous Equations of the First

<sup>1</sup> See Examinations accepted as exempting, page 440.

<sup>2</sup> No Books prescribed.



Degree, Easy Quadratic Equations, Problems leading to the above Equations.

- (3) Geometry—Euclid, Books I., II., and III. (or their equivalents), with Easy Deductions. Demonstrations other than Euclid's will be accepted if they assume no propositions which in Euclid's order are subsequent to the proposition under consideration.

The paper in Mathematics will be devoted to the various subjects comprised in as nearly as possible the following proportions: four-ninths to *Geometry*, three-ninths to *Algebra*, and two-ninths to *Arithmetic*.

Candidates may obtain full marks by doing correctly about two-thirds of the questions set in each subject; but the Examiners will be entitled to reject a Candidate who makes in any subject less than a certain minimum of the marks allotted to that subject.

In *English* no set books are prescribed, nor is a general knowledge of the life and works of the greater authors expected of Candidates, but one or two questions may be set, giving an opportunity to Candidates to show a knowledge of famous literary works. The historical questions will not be confined to any one period, but will cover the whole of British History, and will be set in such a way as to give an opportunity to Candidates who have confined their studies to a single period to show their knowledge. A single three hours' paper will be set, containing an Essay, a Paraphrase, two questions on History, two on Geography, four on Grammar (including Correction of Sentences, Parsing, Analysis of Sentences, and Derivations), two of a literary and general kind. Eight answers will be required. The Essay, the Paraphrase, one answer on History, and one on Geography will be compulsory.

*French and German*.<sup>1</sup>—One paper will be set in French and one in German. The papers will be of a Lower Standard than those set in these subjects in the Arts and Science Preliminary. The time allowed for each of these papers will be three hours. The paper in each subject will comprise questions in Grammar, translation into English, a piece of English, and some short sentences in English of an idiomatic character for translation.

It shall be in the option of any Candidate for the Medical Preliminary to take the papers set on the Higher Standard for the Arts Preliminary in any of the subjects. (See Arts Regulations.)

Candidates who, having taken *English, Latin, Greek, Mathematics*, or a *Modern Language*, on the Higher Standard, as prescribed by the Regulations for the Arts and Science Preliminary, have obtained a satisfactory percentage of marks, will be held to have passed the Medical Preliminary in these subjects, provided that all the required subjects are passed at not more than two Examinations.

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<sup>1</sup> No Books prescribed.

EXAMINATIONS ACCEPTED AS EXEMPTING FROM THE PRELIMINARY  
EXAMINATION IN MEDICINE.

*Provided always that the Regulations of the General Medical Council regarding the Registration of Students of Medicine be complied with.*

1. In terms of the Regulations for Degrees in Medicine and Surgery, "a Degree in Arts or in Science (not being a Degree *honoris causa tantum*) in any of the Universities of the United Kingdom, or in any Colonial or Foreign University, specially recognised for the purpose by the University Court, will exempt from the Preliminary Examination."

In virtue of the powers conferred on them by the Medical Regulations, Section VI., page 19, the Joint-Board have resolved as follows:—

2. Any Candidate who produces a Certificate of having passed the Preliminary Examination in Arts or Science in any Scottish University, either at the University Examination or through the Leaving Certificates of the Scotch Education Department, or partly at the University Examination, and partly through the Leaving Certificates, will be held to have passed the Preliminary Examination for Medicine, provided that the Examination has included the specified subjects of General Education as required under the Regulations of the General Medical Council, and by the Regulations for Graduation in Medicine and Surgery (Sections III.-VI. inclusive).

3. A Candidate who has passed the Arts and Science Preliminary Examination of the Joint Board in any subject (Higher Grade where there is more than one) recognised for the Medical Preliminary Examination, shall be exempted from further examination in that subject in the aforesaid Preliminary Examination.

4. A Candidate who has obtained the Leaving Certificate (Honours or Higher Grade) of the Scotch Education Department in any subject recognised for the Medical Preliminary Examination, shall be exempted from further examination in that subject in the aforesaid Preliminary Examination.

The Regulation that all the subjects of the Examination shall be passed at one or not more than two Examinations shall not be held to apply to the above cases, 2, 3, and 4. But Candidates complying with these Rules (2, 3, and 4) must obtain a University Certificate specifying the Examinations passed by them which have been accepted as equivalents to the Preliminary, and must present said Certificate to the Medical Registrar in order to registration.

Further, each such Candidate when applying for said Certificate must, if he has not entered for any part of the Preliminary, produce a Matriculation Card from some one of the Scottish Universities.

5. Lower Grade Leaving Certificates of the Scotch Education Department will only be accepted as exempting from the Medical Preliminary Examination, provided the examinations in all the requisite subjects have been passed at one or not more than two Examinations.

6. The following English and Irish University Examinations will be accepted (provided they include all the subjects required under the Regulations of the General Medical Council, and prescribed by the Medical Ordinances of the Scottish Universities Commissioners, see Sections III.-VI. inclusive of Regulations for Graduation in Medicine and Surgery), viz. :—

*Oxford.* Responsions, or Moderations—Provided the Candidate pass the Examination of the Joint Board in English.

Senior Local Examinations will be accepted *pro tanto*, provided that, as regards English, the Certificates shall bear that the Candidate has passed in Division 1 of the subject, and in either Division 3, 4, or 5.

Higher Examination for Women will be accepted *pro tanto*.

*Cambridge.* Previous Examination—Provided that Candidates who have passed it prior to Michaelmas 1896 shall pass the Examination of the Joint Board in English. If passed after Michaelmas 1896, the Previous Examination will be accepted as exempting *in toto*.

Senior Local Examinations will be accepted *pro tanto*.

Higher Local Examinations will be accepted *pro tanto*.

*Oxford and Cambridge Schools Examination.* Higher Certificate will be accepted *pro tanto*, provided that, as regards Mathematics, the Certificate shall bear that the Candidate has passed in both Elementary and Additional Mathematics.

*London University.* Matriculation Examination.

*Dublin, Trinity College.* Public Entrance Examination.

*Royal University of Ireland.* Matriculation Examination.

*Victoria University.* Preliminary Examination ; Entrance Examination in Arts.

By *pro tanto* is here meant that a certificate of having passed in the Examination referred to, in any subject required for the Medical Preliminary Examination, shall, as regards that subject, exempt from further Examination in the said Preliminary Examination, provided that all the required subjects shall be passed at one or not more than two Examinations.

7. The Examinations of the following Indian, Colonial, and Foreign Universities and Colleges, will be accepted (provided the Examinations include all the subjects required by the General Medical Council, and prescribed by the Medical Ordinances of the Scottish Universities Commissioners—see Sections III.-VI. inclusive of Regulations for Graduation in Medicine and Surgery), viz. :—

*Universities of* (1) *Calcutta*, (2) *Madras*, (3) *Bombay*, (4) *Allahabad*, and (5) *Panjab*.—Entrance Examination.

*Universities of* (1) *Cape of Good Hope*.—Matriculation Examination ; (2) *Tasmania*.—Matriculation Examination ; (3) *New Zealand*.—

Matriculation and Medical Preliminary Examinations ; (4) *Melbourne*—Matriculation Examination ; (5) *Sydney*—Matriculation Examination ; (6) *Adelaide*—Matriculation Examination, or its substitute, the Senior or Junior Public Examination.

*The Provincial Education Department of Ontario.*—Departmental Pass Arts Matriculation Examination.

*Trinity University, Toronto.*—Matriculation Examination

*The University of Toronto.*—Senior or Junior Matriculation Examination.

*Queen's College and University, Kingston.*—Matriculation Examination.

*M'Gill University.*—Matriculation Examination.

*King's College, Windsor, Nova Scotia.*—Responsions.

*Dalhousie College, Halifax.*—Matriculation Examination.

*Mount Allison College, Sackville, New Brunswick.*—Matriculation Examination.

*The University of Winnipeg.*—Preliminary Examination in Arts.

*Victoria College, Upper Canada.*—Matriculation Examination.

*The University of Halifax, Nova Scotia.*—Matriculation Examination.

*The University of Fredericton, New Brunswick.*—Matriculation Examination.

*The Western University of Ontario.*—Matriculation Examination.

*University of Manitoba.*—Previous Examination.

*Codrington College (Barbados).*—English Certificate for Students of two years' standing, and Latin Certificate, or "Testamur."

*Germany and other Continental Countries.*—Gymnasial Abiturienten-Examen, and corresponding Entrance Examinations to the Universities.

8. In the case of Candidates for the Medical Preliminary Examination, who hold qualifications from Foreign or Colonial Bodies, other than Universities, whose certificates are not included in the list of Equivalent Examinations issued by the Joint Board, a Committee in each University, consisting of the Deans of the Faculties of Arts, Science, and Medicine, is empowered to accept such certificates, if it deems them sufficient, provided that all such cases are reported to the Joint Board at their meeting next following.

## Class Prize and Honours Lists.

### FACULTY OF ARTS.

#### SUMMER SESSION, 1899.

##### HUMANITY.

###### HONOURS CLASS—HONOURS GRADUATION HALF-COURSE.

FIRST-CLASS CERTIFICATES OF MERIT.—1. Francis H. T. Gray, Elgin (*Medal*); 2. Roderick Barron, Laggan.

SECOND-CLASS CERTIFICATES OF MERIT.—3. John R. Cuthbert, Ayr; 4. William B. Brander, Scotland; 5. Alfred J. Sturrock, Linlithgow.

###### SENIOR CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. Edward B. Ross, Scotland (*Medal*); 2. John G. Sutherland, Wick; 3. George A. Carse, Edinburgh; 4. William R. N. Merry, Scotland.

SECOND-CLASS CERTIFICATES OF MERIT.—5. James Waterston, Paisley; 6. Robert Aitken, Scotland; 7. Elizabeth B. Murray, Edinburgh; 8. Margaret W. Cameron, Arbroath; 9. Robert Donaldson, Dalkeith; 10. Flora O'Riordan, England; 11. Annabella G. Clark, Edinburgh; 12. Clerk Ranken, Edinburgh.

LATIN PROSE COMPOSITION.—1. Edward B. Ross and John G. Sutherland—equal; 3. William R. N. Merry and James Waterston—equal.

ROMAN HISTORY.—1. George A. Carse; 2. John G. Sutherland.

###### JUNIOR CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. Alexander D. Maclean, Scotland; 2. John P. Steele, Grangemouth.

SECOND-CLASS CERTIFICATES OF MERIT.—3. Robert J. Nicholson, Pembrokeshire; 4. Oswald H. Ewing, Northumberland; 5. Neil F. Grant, Scotland.

LATIN PROSE COMPOSITION.—1. John P. Steele; 2. Oswald H. Ewing.

JAMES MILL, M.A., *Lecturer.*

##### GREEK.

###### HONOURS CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. Roderick Barron, Laggan; and Francis H. T. Gray, Elgin—equal.

SECOND-CLASS CERTIFICATE OF MERIT.—3. J. R. Cuthbert, Ayr.

###### SENIOR CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. Edward B. Ross, Edinburgh; 2. R. Buchanan, Edinburgh.



444 *Faculty of Arts—Class Prize and Honours Lists.*

SECOND-CLASS CERTIFICATES OF MERIT.—3. A. R. Low, Edinburgh ;  
4. M. S. Ketchin, Roslin, and J. Waterston, Edinburgh—equal ;  
6. H. Speirs, Duns ; 7. D. Mathieson, Edinburgh.  
COMPOSITION.—Edward B. Ross.

JUNIOR CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. A. Fraser, M. Clark,  
Kirkcaldy ; 2. W. A. B. Gall, Elgin.

SECOND-CLASS CERTIFICATE OF MERIT.—3. A. D. Maclean, Argyll-  
shire.

COMPOSITION.—A. Fraser, M. Clark, and W. A. B. Gall—equal.

GRAMMAR.—1. W. A. B. Gall ; 2. A. Fraser, M. Clark.

A. DOUGLAS THOMSON, M.A., D.Litt., *Lecturer.*

ENGLISH LITERATURE.

HONOURS CLASS.

FIRST-CLASS CERTIFICATES.—1. Richard H. Moar Stromness (*Medal*) ;  
2. Henry M. Strong, Tunbridge Wells.

SECOND-CLASS CERTIFICATES.—3. Alexander C. Murphy, M.A. ;  
Edinburgh ; 4. Marie Joachimi, Nordhausen (Hartz) and A.  
Elizabeth Neumann, Lauban (Schlesien)—equal.

G. GREGORY SMITH, M.A., *Lecturer.*

ELEMENTARY HEBREW.

CLASS MEDAL AND FIRST-CLASS CERTIFICATE.—1. M. P. Simpson,  
Berwickshire.

SECOND-CLASS CERTIFICATES.—2. Ernest Lawson, Edinburgh ; 3. O.  
B. Milligan, M.A., Edinburgh.

ELEMENTARY ARABIC.

SPECIAL MENTION—J. Patton, B.A., Ireland.

ANDREW TWEEDIE, B.D.

University Assistant in Semitic Languages.

MATHEMATICS.

HONOURS

FIRST-CLASS CERTIFICATES.—1. W. J. Kelly, Menstrie (*Medal*) ;  
2. A. Cunnison, Edinburgh, and T. S. Lindsay, Cowdenbeath—  
equal ; 4. G. Philip, Ross-shire.

SECOND-CLASS CERTIFICATES.—R. Aitken, Hawick ; C. Ranken,  
Edinburgh ; A. Richardson, Edinburgh ; R. G. Russel, Edin-  
burgh ; B. H. Watt, Edinburgh.

HIGHER SENIOR.

FIRST-CLASS CERTIFICATES.—1. E. Shearer, Orkney ; 2. F. J. Gordon,  
Edinburgh ; 3. D. G. Robertson, Edinburgh.



SECOND-CLASS CERTIFICATES.—W. S. Colville, Argyleshire ; J. S. Kinghorn, Edinburgh ; A. W. M'Clymont, Roxburgh ; J. Macrae, Kintyre ; H. P. Robarts, Edinburgh ; A. J. Sturrock, Edinburgh.

LOWER SENIOR.

FIRST-CLASS CERTIFICATES.—1. W. Landells, Dumfries (*Medal*) ; 2. G. S. Duncan, Leith ; 3. W. H. Allan, Edinburgh ; 4. P. B. M. Macaulay, Irvine.

SECOND-CLASS CERTIFICATES.—C. D. Ogilvy Barrie, Dumfries ; D. K. Cunnison, Edinburgh ; W. Booth-Gravely, Edinburgh ; Muriel F. Hodgson, Manchester.

CHAS. TWEEDIE, M.A., B.Sc., *Lecturer*.

DYNAMICS.

FIRST-CLASS HONOURS.—1. A. H. Armstrong, Ireland ; 2. George Philip, Ross-shire ; 3. T. P. W. Barty, Scotland.

C. G. KNOTT, D.Sc., *Lecturer*.

ADVANCED EXPERIMENTAL PHYSICS.

FIRST-CLASS CERTIFICATES.—W. Gentle, and Alice B. Lennie—equal (*Medallists*).

ADVANCED NATURAL PHILOSOPHY (TUTORIAL).

FIRST-CLASS CERTIFICATE.—R. M. Shearer.

W. PEDDIE, D.Sc., *Lecturer*.

BRITISH HISTORY (General and Constitutional)—1066-1832.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. Donald J. Boyd, M.A., Singapore (*Medallist*) ; 2. Donald Banks, Wigtownshire ; 3. William B. Brander, Edinburgh ;

SECOND-CLASS CERTIFICATES.—4. Herbert Marsh, Edinburgh ; 5. W. J. B. Selkirk, Edinburgh ; 6. James Sime Miller, Berwick-on-Tweed ; 7. J. Alec. Ferguson, Edinburgh.

D. P. HEATLEY, *University Assistant in History*.

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WINTER SESSION, 1899-1900.

LATIN.

HONOURS CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. W. D. R. Prentice, Portobello (*Medal*) ; 2. G. W. Chrystal, Edinburgh, and J. B. Jamieson, Portobello—equal (*Prizes*).

SECOND-CLASS CERTIFICATES OF MERIT.—4. W. H. Nelson, Rose-

well; 5. Charles Goodall, Edinburgh; 6. Thomas Davidson, Edinburgh; 7. William Pryde, Edinburgh; 8. James Anderson, Forres.

PROSE COMPOSITION.—1. Isabella W. Stevenson, Edinburgh; 2. Charles Goodall, Edinburgh (*Prizes*).

VERSE COMPOSITION.—C. Goodall.

HISTORY OF LITERATURE.—1. W. D. R. Prentice (*Prize*); 2. G. W. Chrystal.

ENGLISH ESSAY.—G. W. Chrystal.

ENTITLED TO FIRST-CLASS CERTIFICATE, BUT NOT COMPETING.—Isabella W. Stevenson.

SECOND CLASS.—Douglas G. Robertson, Edinburgh.

#### SENIOR CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. Lilian S. Ross, Arbroath; 2. Charles M'Pherson, Kingussie; 3. George Robertson, Edinburgh (*Medals*); 4. D. H. Wares, Wick; 5. Liliass Macgregor, Dumfries; 6. Margaret Adamson, Edinburgh; 7. Peter D. Innes, Perth; 8. Madeline Edgar, Edinburgh; 9. Jane Anderson, Orkney; 10. Alexander Maclellan, Kingussie; 11. A. J. D. Lothian, Dundee (*Prizes*); 12. J. P. Lowson, Edinburgh; 13. Grace Fergie, Edinburgh; 14. D. F. Dingemans, Zutphen; 15. Mary E. M. Clark, Kirkcaldy, and Lizzie B. Murray, Edinburgh—equal; 17. D. MacDiarmid, Callander; 18. John Handyside, Edinburgh; 19. James Black, East Calder, and Stewart Waterston, Edinburgh—equal.

SECOND-CLASS CERTIFICATES OF MERIT.—21. Donald Gordon, Kingussie; 22. Jane N. Lowson, Edinburgh, and Charles L. Philip, New Galloway—equal; 24. Beatrice M'Murtrie, Edinburgh; 25. Minnie Moore, Lauder, and Isobel J. Trench, E. Dulwich—equal; 27. J. L. Geddie, Edinburgh; 28. Margaret J. Ewan, Bathgate; 29. James Jackson, Ayr; 30. T. S. M'Intosh, Alva; 31. A. S. Robertson, Perth, and James A. Todd, Edinburgh—equal; 33. Mary Lawson, Edinburgh; 34. J. H. Aikman, Leith, and Margaret Sibbald, Dundee—equal; 36. Mary S. Govan, Stirling, and Charles L. Riach, Edinburgh—equal; 38. David L. Cattanaich, Edinburgh; 39. William Farquharson, Edinburgh; 40. Margaret W. Cameron, Edinburgh, and Daniel Johnstone, Cromarty—equal; 42. Norma M. Findlay, Dundee, and Charles F. Allan, Edinburgh—equal; 44. Henry W. Meikle, Edinburgh; 45. J. C. D. Allan, Edinburgh; 46. Robert W. Rae, Lockerbie; 47. John M'Laren, Callander, and John L. Pirie, Edinburgh—equal; 49. David W. Soote, Dundee.

LATIN PROSE COMPOSITION.—1. D. H. Wares; 2. Lillian S. Ross (*Prizes*); 3. Liliass Macgregor; 4. A. J. D. Lothian; 5. D. F. Dingemans and George Robertson—equal; 7. Grace Fergie; 8. C. Macpherson.

LATIN VERSE COMPOSITION.—1. A. J. D. Lothian (*Prize*); 2. James Black.

HISTORY AND LITERATURE.—1. J. P. Lowson, Alex. Maclellan, and Lilian Ross—equal (*Prizes*); 4. Isobel J. Trench and D. H. Wares—equal; 6. Lilia Macgregor.

JUNIOR CLASS.

FIRST-CLASS CERTIFICATES OF MERIT.—1. Mary J. Alison, Monifieth (*Medal*); 2. Ernest H. Lamb, Longtown; 3. Charles B. S. Monfries, London; 4. John F. Robertson, Edinburgh; 5. Robert Campbell, Fordoun (*Prizes*); 6. James M'Caig, Thornhill, and John Morrison, Tranent—equal; 8. James W. M. Williamson, Kirn.

SECOND-CLASS CERTIFICATES OF MERIT.—9. Alexander Merrilee, North Berwick; 10. Alice Simpson, Edinburgh; 11. Logie Low, Blairgowrie; 12. E. Maude M. Alexander, Selkirk; 13. Thomas M. Finlay, Shetland; 14. Albert Latto, Dundee.

LATIN PROSE COMPOSITION.—1. Albert Latto; 2. Robert Campbell (*Prizes*).

HONOURABLE MENTION.—3. E. H. Lamb; J. W. M. Williamson; 5. J. F. Robertson; 6. Mary J. Alison.

HISTORY AND LITERATURE.—1. C. B. S. Monfries (*Prize*).

HONOURABLE MENTION.—Robert Campbell.

W. R. HARDIE, M.A., *Professor*.

GREEK.

HONOURS CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES OF MERIT.—1. W. D. R. Prentice, Portobello, and Francis H. T. Gray, Elgin—equal (*Medallists*); 3. J. B. Jamieson, Portobello; 4. Isabella W. Stevenson, Edinburgh.

SECOND-CLASS CERTIFICATES OF MERIT.—5. Douglas G. Robertson, Edinburgh; 6. Thomas Davidson, Edinburgh; 7. James Anderson, Forres; 8. Roderick Barron, Laggan; 9. Francis J. Gordon, Edinburgh; 10. George W. Chrystal, Edinburgh; 11. William Pryde, Edinburgh; 12. J. M. B. Duncan, Edinburgh; 13. W. H. Nelson, Rosewell; 14. W. Booth-Gravelly, Edinburgh; 15. J. M. Hendrie, Dumfries; 16. J. J. Macpherson, Kingussie.

PROSE COMPOSITION.—F. H. T. Gray, W. D. R. Prentice, and William Pryde—equal.

A. W. MAIR, M.A. (Aberd.), B.A. (Cantab), *pro-Professor*.

SENIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES OF MERIT.—1. George Robertson, Edinburgh, and D. H. Wares, Wick—equal (*Medals*); 3. Lilian S. Ross, Arbroath, and Madeline E. Edgar, Edinburgh—equal; 5. James Black, East Calder; 6. Alexander Maclellan,

448 *Faculty of Arts—Class Prize and Honours Lists.*

Kingussie ; 7. J. L. Geddie, Edinburgh ; 8. Charles Macpherson, Kingussie ; 9. A. J. Lothian, Dundee ; 10. Peter D. Innes, Perth ; 11. Catherine A. Nicolson, Edinburgh, and James Jackson, Ayr—equal ; 13. Margaret J. Ewan, Bathgate, and Stewart Waterston, Edinburgh—equal.

SPECIAL PRIZE.—G. F. Dingemans (joined the Class late).

SECOND-CLASS CERTIFICATES OF MERIT.—15. D. M. Maclean, Plockton ; 16. Alexander White, Edinburgh ; 17. Mary Wallace, Edinburgh ; 18. D. C. Gordon, Kingussie, and A. S. Robertson, Perth ; 20. Robert Aitken, Hawick ; 21. D. MacDiarmid, Callander, and Jeanie C. Rait, Falkirk ; 23. James Murray, Edinburgh ; 24. W. A. B. Gall, Elgin ; 25. J. H. Aikman, Leith, and A. Hamilton Scott, Ayr—equal ; 27. R. W. Rae, Lockerbie ; 28. Robert Younger, Edinburgh ; 29. Daniel Johnstone, Cromarty.

PROSE COMPETITION.—1. D. H. Wares (*Prize*).

HONOURABLE MENTION.—2. Madeline E. Edgar and G. Robertson—equal.

HISTORY.—1. Lilian S. Ross and G. Robertson—equal (*Prizes*).

HONOURABLE MENTION.—3. J. Black and P. D. Innes—equal.

G. B. GARDINER, M.A., D.Sc., *pro Professor*.

JUNIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES OF MERIT.—1. C. B. S. Monfries, London (*Medal*) ; 2. E. H. Lamb, Longtown ; 3. J. W. M. Williamson, Kirn.

SECOND-CLASS CERTIFICATES OF MERIT.—4. Joseph E. Dean, Bradford, and T. H. Heddle, Orkney—equal.

HISTORY—HONOURABLE MENTION—C. B. S. Monfries.

A. W. MAIR, M.A. (Aberd.), B.A. (Cantab), *pro Professor*.

RHETORIC AND ENGLISH LITERATURE.

HONOURS CLASS (FULL COURSE).

PRIZE AND FIRST-CLASS CERTIFICATE.—1. John Inch Low, Blairgowrie (*Medallist*).

FIRST-CLASS CERTIFICATE.—2. Mary G. Williamson, Allahabad.

SECOND-CLASS CERTIFICATES.—3. Edith S. Hooper, Wales ; 4. John MacRae, Scotland ; 5. Richard H. Moar, Stromness.

ORDINARY CLASS.

CLASS PRIZES AND FIRST-CLASS CERTIFICATES.—1. William B. Brander, Scotland ; 2. George A. Waters, Thurso (*Medallists*) ; 3. Norman J. Henderson, Scotland ; 4. George V. Dunnett, Kilmarnock ; 5. C. D. Ogilvy Barrie, Scotland ; 6. J. H. Birrell, Scotland, and John F. Robertson, Leuchars—equal ; 8. James Aim, Orkney ; 9. Ellen S. Paterson, Dumfriesshire, and Robert

C. Wallace, Orkney—equal; 11. Wilhelmina G. Jameson, Edinburgh; 12. J. Randolph Davidson, Scotland; James Waterston, Paisley; and David J. Young, Blairgowrie—equal.

SECOND-CLASS CERTIFICATES.—15. Robert M. Maciver, Stornoway, and Robert Nichol, Roxburghshire—equal; 17. Alexander F. Jack, Scotland; 18. David Lees, Tarbolton; Isobel Jean Trench, London; and David K. Cunnison, Edinburgh—equal; 21. J. C. D. Allan, Madras, and James Easson, Scotland—equal; 23. Annabella G. Clark, Scotland, and William Phin Gillieson, Caithness—equal; 25. Beatrice Mason, Dalmeny; Joseph Thomson, Scotland; and John G. Tosh, Brechin—equal; 28. Jane Anderson, Orkney; 29. Agnes C. Nicholson, Linlithgow; 30. Heloise Hogg, Carnoustie; Lizzie B. Murray, Edinburgh; Charles Robertson, Perthshire; and Jeanie B. Smith, Dumfriesshire—equal; 34. A. C. Don, England; 35. Christian G. Wilson, Bervie; 36. Alexander Robertson (Scotland); 37. Elizabeth Cowe, Scotland.

ESSAY PRIZES AND FIRST-CLASS CERTIFICATES.—1. C. D. O. Barrie, Scotland; Norman J. Henderson, Scotland (*Medallists*); 3. George V. Dunnett, Kilmarnock; William B. Brander, Scotland; William P. Gillieson, Caithness; and John M'Dougall, Scotland—equal; 7. Wilhelmina G. Jameson, Edinburgh; Ellen S. Paterson, Dumfriesshire; and George A. Waters, Thurso—equal.

SECOND-CLASS CERTIFICATES.—10. Alexander F. Jack, Scotland; John F. Robertson, Leuchars; Joseph Thomson, Scotland; James Waterston, Paisley; and Annie May Watson, Stromness—equal; 15. James Aim, Orkney; Jane Anderson, Orkney; John H. Birrell, Scotland; James Easson, Scotland; David Lees, Tarbolton; and Elizabeth B. Smith, Scotland—equal.

PRIZES FOR VERSE, WITH FIRST-CLASS CERTIFICATES.—Norman J. Henderson, Scotland, and James Y. Hunter, Hawick—equal.

SCOTTISH TEXT SOCIETY'S PRIZE—William B. Brander, Scotland. *Prox. Acc.*—George A. Waters, Thurso; John F. Robertson, Leuchars.

GEORGE SAINTSBURY, M.A., *Professor.*

## OLD AND MIDDLE ENGLISH.

### HONOURS COURSE.

FIRST-CLASS CERTIFICATES.—1. John Inch Low, Blairgowrie (*Medal and Scottish Text Society's Prize*); 2. A. C. Murphy, M.A., Edinburgh (*Early English Text Society's Prize*).

SECOND-CLASS CERTIFICATES.—3. Muriel Redcliffe M'Kie, Linlithgow; 4. Richard A. Moar, Stromness; Margaret Cleghorn, Alyth.

SPECIAL PRIZE (*presented by the Early English Text Society*) AND



450 *Faculty of Arts—Class Prize and Honours Lists.*

FIRST-CLASS CERTIFICATE FOR WORK DURING SECOND HALF-COURSE (January-March),—Edith Hooper, Tenby.

SECOND-CLASS CERTIFICATE FOR WORK DURING SECOND HALF-COURSE (January-March),—Mary Gordon Williamson, Allahabad.

O. E. TRANSLATION PRIZE—John Inch Low, Blairgowrie.

G. GREGORY SMITH, M.A., *Lecturer.*

FRENCH.

HONOURS CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. Jessie Lees and George Milne Harper—equal (*Medallists*); 3. Johanne Thomson.

ORDINARY CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. Jeanie Smith (*Medallist*); 2. Alexander Robertson; 3. Jane Middleton; 4. T. S. Anderson.

FIRST-CLASS CERTIFICATES.—5. Margaret Spears and Edith Riach—equal; 7. Elizabeth Smith; 8. J. Paris Steele; 9. Margaret D. Black; 10. Hugh More; 11. Dora Snell; 12. Thomas P. Young; 13. Alexander Mitchell; 14. Harriet Nisbet; 15. Elizabeth Porter; 16. A. J. Laing.

SECOND-CLASS CERTIFICATES.—17. Christina Russell; 18. Janet Gilmour; 19. D. H. Low; 20. Mary H. Lawson; 21. Una Mackinnon; 22. Margaret M'Gregor; 23. H. W. Meikle; 24. Annie Hutcheson; 25. C. F. C. Talbot; 26. Mary Fullarton; 27. Helen MacIntosh; 28. Margaret L. Swanston; 29. Wm. Kelly.

CHAS. SAROLEA, Ph.D., D.Litt., *Lecturer.*

GERMAN.

HONOURS CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. Johanne F. Thomson, Scotland (*Medal and Edinburgh Goethe Society Prize*); 2. Jessie Lees, Tarbolton, and George M. Harper, India—equal; 4. Georgina K. H. Robson, Scotland.

ORDINARY CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—Janie Middleton, Scotland (*Medal and Edinburgh Goethe Society Prize*); 2. Marg. T. Spears, Scotland, and Lillas MacGregor, Dumfries—equal; 4. Mary E. M. Clark, Scotland, and Agnes A. MacGregor, Dumfries—equal; 6. Marg. D. Black, East Calder; 7. Christina Mitchell, Scotland; 8. Annie C. Hutcheson, Scotland; 9. Carrie Spence, Kirkwall; 10. Helen M'Lachlan, Scotland; 11. G. F. Dingemans, Holland; 12. Grace N. Aitken, Singapore.

SECOND-CLASS CERTIFICATES.—13. Lindsay Bashford, England; 14. Janet S. M'Ewan, Baldernock; Isabella Macphail, Scotland; and



Elizabeth T. Ross, Perthshire—equal; 17. Nellie F. Bathie, Arbroath; 18. Henrietta K. Milne, Scotland.

SPECIAL TRANSLATION PRIZE.—Grace N. Aitken, M. E. M. Clark, and M. T. Spears—equal.

OTTO SCHLAPP, Ph.D., *Lecturer.*

### SANSKRIT.

#### SENIOR CLASS.

CLASS MEDAL AND FIRST-CLASS CERTIFICATE OF MERIT.—D. S. Rama Chandra Rao.

#### JUNIOR CLASS.

CLASS MEDAL AND FIRST-CLASS CERTIFICATE OF MERIT.—I. Colin M. Murray.

FIRST-CLASS CERTIFICATE OF MERIT.—2. Shankar Nath.

J. EGDELING, Ph.D., *Professor.*

### CELTIC LANGUAGES AND LITERATURE.

#### CELTIC CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—I. John D. M'L. Black, Lairg (*Medallist*); 2. Alex. D. Maclean, Salen, Mull, and Kenneth Cameron, Inverness—equal.

SECOND-CLASS CERTIFICATE.—William Murdie, M.A., Assynt.

#### ADVANCED CELTIC CLASS.

SECOND-CLASS CERTIFICATES.—I. John D. M'L. Black, Lairg; 2. Kenneth Cameron, Inverness.

#### GAELIC CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—I. Alexander Sutherland (*Medallist*); 2. John Macaskill, M.A., Dingwall, and Daniel A. Morrison, Kirkmichael—equal.

SECOND-CLASS CERTIFICATE.—Alexander F. Munro, M.A., Alness.

SPECIAL PRIZES.—£10, 10s. given by the Highland Society of London—John D. M'L. Black. Book Prizes, given by John Mackay, Esq., Hereford—John D. M'L. Black, Alex. D. Maclean, Kenneth Cameron, William Murdie, M.A.

DON. MACKINNON, M.A., *Professor.*

### LOGIC AND METAPHYSICS.

#### ADVANCED CLASS—METAPHYSICS.

FIRST-CLASS CERTIFICATES.—I. Alexander Mackie, Edinburgh (*Bruce of Grangehill and Falkland Prize and Medal*); 2. Hugh Oswald, M.A., Kirkcaldy; 3. T. F. Scott, M.A., Cromarty (*Prizes*); 4. Jessie Chrystal Macmillan, B.Sc., Edinburgh.

ORDINARY CLASS—LOGIC AND PSYCHOLOGY.

FIRST-CLASS CERTIFICATES.—1. Alexander Gray, Dundee, and G. W. Jones, Dundee—equal (*Medals*); 3. R. C. Wallace, Orkney; 4. James Reid, Leven; 5. G. A. Smillie, Philpstoun; G. W. Chrystal, Edinburgh; Robert Paisley, Langholm; and Helen M'Lachlan, Edinburgh—equal; 9. Peter M'Ewan, Kinfauns, Perthshire; 10. D. H. Ash, Perth; 11. P. B. M. Macaulay, Irvine, and A. F. M. Clark, Kirkcaldy—equal; 13. A. J. Ross, Edinburgh; 14. David Mathieson, Edinburgh, and J. R. Davidson, Falkirk—equal; 16. Margaret M'Gregor, Montrose, and Agnes A. M'Gregor, Dumfries—equal (*Prizes*); 18. Charles M'Neil, Edinburgh; 19. John Graham, Lochmaben; C. F. Allan, Edinburgh; and G. A. Waters, Thurso—equal; 22. Charles Goodall, Edinburgh; Daisy G. Turner, Edinburgh; and Margaret J. Thompson, Alloa—equal; 25. George Mill, Edinburgh, and John Macalpine, Edinburgh—equal; 27. J. E. Geddes, Edinburgh, and Andrew M'Intosh, Dundee—equal; 29. Christina A. Cameron, Stanley; Annie K. Craig, Edinburgh; Annie C. Hutcheson, Perth; A. M. Shaw, Inverness; and Edith R. Riach, Calcutta—equal; 34. Wilhelmina G. Jameson, Edinburgh; Catherine A. Nicolson, Edinburgh; and G. G. Campbell, Inverness—equal.

SECOND-CLASS CERTIFICATES.—37. E. H. Wishart, Prestonkirk; 38. J. F. Milne, Broughton; Charles Robertson, Kinclaven, Perthshire; and Robert Aitken, Hawick—equal; 41. D. K. Cunnison, Edinburgh; Walter Booth-Gravely, Edinburgh; Peter White, Tayport; Mary C. Jolly, Edinburgh; Isabella E. Moir, St Cyrus; and Janet M. Murray, Ayr—equal; 47. Elizabeth J. Ross, Montrose; Annie S. Gow, Coupar-Angus; and Jessie E. Anderson, Edinburgh—equal; 50. Annie M'Cugan, Ardrishaig; W. A. B. Gall, Elgin; Henrietta K. Milne, Montrose; and James Wright, Bathgate—equal.

A. S. PRINGLE PATTISON, LL.D., *Professor.*

MORAL PHILOSOPHY.

HONOURS CLASS.

FIRST-CLASS CERTIFICATES. — 1. Alexander Mackie, Edinburgh (*Medal*); 2. Marion I. Gray, Edinburgh; (*Elizabeth Hamilton Prize*), and Hugh Oswald, Kirkcaldy—equal (*Prizes*); 4. T. Fraser Scott, Cromarty.

ORDINARY CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. G. V. Dunnett, Kilmarnock; 2. A. W. M'Clymont, Roxburghshire; and Robert G. Paterson, Edinburgh—equal (*Medals*); 4. Bessie K. Hogg, Egypt, and Arthur C. Taylor, Edinburgh—equal; 6. Alexander

Duthie, Edinburgh ; 7. George L. Brander, Brooklyn, U.S.A. ; 8. Adam Mackay, Forfar ; 9. G. Grant, M'Kerron, Edinburgh ; 10. W. G. Orr, Edinburgh.

SECOND-CLASS CERTIFICATES.—11. Annie S. Gow, Coupar-Angus, and J. Riddell Hutton, Birkenhead—equal ; 13. J. S. Kinghorn, Edinburgh ; 14. R. Griffith John, Manchester ; 15. James Waterston, Edinburgh ; 16. H. D. F. Dunnett, Kilmarnock, and Nellie S. Shearer, Thurso—equal ; 18. Ernest Lawson, Fifeshire, and Elizabeth H. C. Pagan, Edinburgh—equal ; 20. Norman Nicholson, Edinburgh ; James Reid, Leven ; and John Gordon Tosh, Brechin—equal ; 23. Janet Straton M'Ewen, Stonehaven ; 24. William Walker, Edinburgh ; 25. James Young Hunter, Hawick, and Carrie Spence, Kirkwall—equal ; 27. George G. Johnston, Malta, and Charles Robertson, Kinclaven, Perthshire—equal ; 29. M. A. Murray, Calcutta ; 30. H. D. Fraser, Edinburgh.

JAMES SETH, M.A., *Professor.*

## COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

### HONOURS CLASS.

PRIZES.—1. Donald Banks, M.A., Wigtownshire (*Medal*) ; 2. Alexander Darroch, M.A., Edinburgh ; 3. William Walker, Edinburgh.

FIRST-CLASS CERTIFICATES.—4. T. Fraser Scott, Cromarty ; 5. John Smyth, M.A., New Zealand.

### ORDINARY CLASS.

PRIZES.—1. R. D. Bell, M.A., Edinburgh (*Medal and Merchant Company's Prize of £10, 10s.*) ; 2. A. W. M'Clymont, Roxburghshire (*George Watson's Prize*) ; 3. W. J. Kelly, Menstrie (*Daniel Stewart's Prize*) ; 4. Bessie K. Hogg, Egypt ; 5. Wm. N. Prophet, Forfar, and Ernest Shearer, Orkney—equal ; 7. W. B. Brander, Edinburgh, and H. C. Liddell, M.A., Edinburgh—equal.

FIRST-CLASS CERTIFICATES.—9. J. M. Shaw, M.A., Inverness ; 10. T. A. L. Cairns, Portobello, and J. M. Dunnett, M.A., Kilmarnock—equal ; 12. Robert Paisley, Langholm ; 13. J. G. Sutherland, Wick ; 14. F. J. Gordon, Edinburgh, and A. J. Ritch, Orkney—equal ; 16. G. L. Brander, Brooklyn, U.S.A. ; 17. Muriel F. Hodgson, Lancashire ; 18. W. J. Burns Selkirk, Aberdeen ; 19. R. Griffith John, Manchester, and F. H. T. Gray, Elgin—equal ; 21. J. S. Kinghorn, Edinburgh ; 22. A. A. Burt, Fifeshire ; 23. C. S. Addis, Edinburgh, and T. Addis, Edinburgh—equal ; 25. Charles Macpherson, Kingussie ; 26. Arthur P. Duffes, Edinburgh.

ESSAYS.—W. J. Burns, Selkirk (*Prize*).

J. SHIELD NICHOLSON, D.Sc., *Professor.*

# THEORY, HISTORY, AND ART OF EDUCATION.

FIRST-CLASS CERTIFICATES.—1. Norma M. Findlay, Mary S. Miller, and Wm. P. Gillieson—equal; (*Medallists*); 4. Nellie F. Bathie, and J. D. M. Black—equal; 6. T. Gray Philip; 7. Wm. Geddie; 8. Helen MacLachlan; 9. Wilhelmina G. Jameson; 10. Jane N. Thomson; 11. Annie M'Cugan; 12. John Garriock; 13. John H. Birrell; 14. Alex. Dundas; 15. Peter M. Curle; 16. Jean R. Munro; 17. Wm. Easson; 18. Thos. P. Young; 19. Lizzie Wedderspoon; 20. Margaret Sibbald; 21. David Clouston; 22. Alex. R. Dallas; 23. Jessie Sibbald.

S. S. LAURIE, LL.D., *Professor.*

## MATHEMATICS.

### ADVANCED HONOURS CLASS.

FIRST-CLASS CERTIFICATES.—J. K. H. Inglis, New Zealand (*Prize and Medal*); \*E. Blades, Armadale; \*D. M. Johnstone, Edinburgh; Miss A. B. Lennie, Edinburgh; \*D. G. Mitchell, Edinburgh; \*R. M. Shearer, Edinburgh.

SECOND-CLASS CERTIFICATES.—A. R. Normand, Edinburgh.

### INTERMEDIATE HONOURS CLASS.

FIRST-CLASS CERTIFICATES.—A. Gray, Lochee, and E. B. Ross, Edinburgh (*Prizes and Medals*); T. S. Lindsay, Cowdenbeath; J. A. A. Morrison, Perthshire; G. Philip, Ross-shire; W. N. Prophet, Forfar.

SECOND-CLASS CERTIFICATES.—C. Ranken, Edinburgh.

### SENIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. J. Anderson, Edinburgh; 2. F. Ross, Coupar-Angus (*Medals*); 3. W. B. Brander, Edinburgh; 4. G. S. Duncan, Leith, and J. H. M'Lagan Wedderburn, Forfar—equal; 6. W. Landells, Dumfries, and J. Watson, Edinburgh—equal; 8. C. L. Philip, New Galloway; 9. J. D. Fulton, Edinburgh; 10. C. D. O. Barrie, Dumfries; 11. G. A. Waters, Thurso; 12. A. H. Gardner, Edinburgh; 13. P. Ross, Thurso; 14. Miss M. Adamson, Edinburgh; 15. D. H. Ash, Perth; W. M. Doull, Thurso; and Miss M. T. Moffat, Ayr—equal.

SECOND-CLASS CERTIFICATES.—I. Ash, Perth; J. H. Balleny, Edinburgh; Miss J. B. Bone, Whitehaven; J. C. Boyd, Campbeltown; Miss G. Fergie, Edinburgh; Miss L. A. Eraser, Musselburgh; J. Graham, Lochmaben; Miss M. S. Hall, Hawick; W. Henderson, Dalkeith; H. G. A. Leonard, India; J. P. Lowson, Belfast; R. M. Maciver, Stornoway; Miss J. Meiklejohn, Ross-shire; Miss

\* Attending the class for the second time, and not eligible for prizes.

H. S. Nisbet, Edinburgh ; J. W. Oastler, Meigle ; A. S. Ogilvie, Edinburgh ; J. Paterson, Ayr ; A. K. R. Paton, Kilmarnock ; J. L. Pirie, Edinburgh ; C. L. Riach, Calcutta ; Miss E. C. Robertson, Edinburgh ; W. J. B. Selkirk, Aberdeen ; Miss J. J. M. Sibbald, Lockerbie ; Miss D. Snell, Edinburgh ; T. Steven, Edinburgh ; J. Y. Sutherland, Shetland ; Miss H. P. Thomson, Lanark ; R. B. Thomson, Dalkeith.

The Newton Bursary in mathematics has been awarded to Frank Ross, Coupar-Angus.

#### JUNIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. A. J. Merrilees, North Berwick (*Medal*) ; 2. R. Campbell, Fordoun, and J. Morrison, Haddington—equal ; 4. A. Barclay, Coupar-Angus ; 5. Miss G. A. A. Simpson, Edinburgh ; 6. A. B. Hardy, Leith ; 7. W. Scott, Leith.

SECOND-CLASS CERTIFICATES.—Miss M. J. Alison, Edinburgh ; T. Anderson, Edinburgh ; J. K. Arklay, Edinburgh ; A. T. Cameron, Wiltshire ; W. Crawford, Carlisle ; T. H. Heddle, Edinburgh ; J. M'Caig, Dumfries ; D. W. Soote, Dundee ; Miss J. R. Thomson, Whitburn ; Miss J. Young, Edinburgh.

The Kelland Prize, open to members of the Junior Class of the previous winter session, has been awarded to G. S. Duncan, Leith.

G. CHRYSTAL, LL.D., *Professor*.

### NATURAL PHILOSOPHY.

#### ADVANCED CLASS.

CERTIFICATES OF HONOUR (in alphabetical order).—\* E. Blades, Scotland ; J. K. H. Inglis, New Zealand (*Medal and Special Prize*) ; \* D. M. Johnstone, Scotland ; D. G. Mitchell, Edinburgh ; A. R. Normand, Edinburgh ; R. M. Shearer, Scotland (*Medal and Special Prize*).

SECOND-CLASS CERTIFICATES.—J. C. Cameron, Scotland ; J. G. Sutherland, Scotland.

#### ORDINARY CLASS—HIGHER DIVISION.

CERTIFICATES OF HONOUR AND PRIZES.—1. John Anderson (*Medal*) ; 2. A. J. Ritch ; and J. H. M. Wedderburn—equal ; 4. C. L. Philip.

#### LOWER DIVISION.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. G. A. Carse, Scotland ; 2. F. Ross, Scotland (*Medals*) ; 3. J. A. Cameron, Scotland, and J. D. Fulton, Edinburgh—equal ; 5. Miss J. W. Meiklejohn, Scotland ; 6. J. A. Gunn, Orkney ; 7. John Handyside, Leith, and Alex. Robertson, Scotland—equal ; 9. James Ait, Orkney,

\* Has previously attended the Class.

## 456 *Faculty of Arts—Class Prize and Honours Lists.*

and P. Ross, Scotland—equal ; 11. W. Landells, Scotland ; 12. A. J. Ross, Scotland, and James Watson, Edinburgh—equal.  
SECOND-CLASS CERTIFICATES.—14. R. F. Lindsay, Scotland ; 15. J. H. Balleny, Edinburgh ; 16. Miss C. A. Cameron, Scotland, and R. Paisley, Scotland—equal ; 18. S. S. Anderson, Scotland ; 19. A. M'Intosh, Scotland ; 20. J. E. Geddes, Scotland ; 21. W. M'Rae ; 22. W. S. Cameron, Scotland ; 23. John MacAlpine, Scotland ; 24. P. Connell, Kirkcaldy ; T. G. Glen, Scotland ; and T. P. Young, Edinburgh—equal ; 27. A. O. Anderson, Scotland ; 28. W. A. K. Christie, Edinburgh ; 29. James Chalmers, Edinburgh ; and J. Y. Sutherland, Scotland—equal ; 31. J. M. G. Ritchie, Scotland.

### PHYSICAL LABORATORY.

THE FOLLOWING (in alphabetical order) ARE HIGHLY COMMENDED.  
—John Anderson, A. Fraser, H. A. Jack, H. J. C. Kinghorn, Miss A. B. Lennie, Miss J. Meiklejohn, R. C. Wallace, J. H. MacLagan-Wedderburn.

In connection with the Natural Philosophy Class, the Newton Bursary is awarded to G. A. Carse, and the Prize for the best answering in the Ordinary Examinations to John Anderson and F. Ross—equal.

In connection with the Physical Laboratory, the Neill Arnott Scholarship is awarded to R. C. Wallace, and the Donald Fraser Bursary is awarded to Miss A. B. Lennie and Miss J. W. Meiklejohn—equal.

P. G. TAIT, M.A., *Professor.*

### NATURAL PHILOSOPHY—INTERMEDIATE HONOURS.

FIRST-CLASS HONOURS.—1. Edward B. Ross, Edinburgh (*Medal*) ; 2. William Gentle, Dundee ; 3. George Philip, Tarbat, Ross-shire.  
SECOND-CLASS HONOURS.—4. J. A. A. Morrison, Kirkmichael, Perth-shire ; 5. Clerk Ranken, Edinburgh ; 6. William Scott, Scotland.

C. G. KNOTT, D.Sc., *Lecturer.*

### BRITISH CONSTITUTIONAL HISTORY.

#### HONOURS CLASS.

PRIZEMAN—John Purves.

J. KIRKPATRICK, M.A., LL.D., *Professor.*

#### HISTORY.

#### HONOURS CLASS.

FIRST-CLASS CERTIFICATE AND PRIZE—James M. Dunnett, M.A., (*Medal*).

SECOND-CLASS CERTIFICATE—Malcolm A. Murray.



ORDINARY CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. Charles M'Neil (*Medal*); 2. James M. Dunnett, M.A.; 3. George Mill; 4. Norman Nicholson; 5. James Murray; 6. Ernest T. Steele; 7. William C. Robertson; 8. E. H. Scott.

SECOND-CLASS CERTIFICATES.—9. Hilda Johnstone; 10. James J. Macpherson; 11. Ernest H. Wishart; 12. M. F. Simpson; 13. A. C. Murphy, M.A.; 14. J. F. Milne; 15. R. Buchanan; 16. G. W. Ogilvy; 17. John Ogilvie.

R. LODGE, M.A., *Professor*.

MODERN (EUROPEAN) HISTORY: 1715-1848.

PRIZE AND HONOURS LIST.—1. C. G. Mackay, M.A., Pitlochry (*Medalist*); 2. Victor Caldwell, M.A., Edinburgh (*Prizemen*); 3. H. Marsh, Edinburgh, and D. L. Norrie, M.A., Edinburgh—equal; 5. Gerard Smith Steinmetz, Edinburgh; 6. M. Mizusaki, Japan.

DISTINGUISHED (*a*) in Essays.—H. C. Liddell, M.A., Edinburgh; B. H. Richardson, M.A., London; (*b*) in Examinations.—C. F. Grant, M.A., Dundee.

D. P. HEATLEY, *University Assistant in History*.

FINE ART.

MEDAL AND FIRST-CLASS PRIZE.—Alexander MacRae.

COUSIN PRIZE FOR ESSAYS.—Alexander MacRae.

SECOND PRIZE FOR ESSAYS.—Paul Fairweather.

FIRST-CLASS CERTIFICATE OF MERIT.—W. Greig Alexander.

G. BALDWIN BROWN, M.A., *Professor*.

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## *Faculty of Science.*

SUMMER SESSION, 1899.

STRUCTURAL AND FIELD GEOLOGY.

MEDALLIST.—John Crawford, Edinburgh.

HONOURS CERTIFICATES.—1. John Crawford, Edinburgh; 2. Alfred H. Armstrong, Ireland; 3. Archibald Milne, Scotland; 4. George Aimer Russell, Dundee; 5. Andrew Balfour, Scotland, and D. C. M'Intosh, Inverness-shire—equal; 7. Charles Porter, Scotland; 8. D. W. Durie, Scotland; 9. C. J. Lewis, England; 10. George Dick, Scotland; 11. Alexander Miller, Scotland; 12. Hugh Bennett, England, and Harold Cecil Long, England—equal; 14. Charles Goodall, Scotland, and R. C. Verley, Jamaica—equal; 16. Thomas P. W. Barty, Scotland, and G. Wishart M'Intosh—equal; 18. Duncan Forbes, Scotland; 19. Alexander L. Pearson,

## 458 *Faculty of Science—Class Prize and Honours Lists.*

Scotland; 20. John Cooper, Scotland; 21. Carolus Marie, Mauritius.

John Falconer and W. J. Megaw obtained 90 and 61 marks respectively in one examination. They were unavoidably absent from the final examination. J. S. Allison having attended the same class in a previous session was not allowed to compete for the medal. He obtained 97 per cent. of the available marks.

JAMES GEIKIE, D.C.L., LL.D., *Professor.*

### PETROLOGY.

1. John M. Newton, Broughty Ferry (*Medallist*); 2. P. R. Chalmers, Blairgowrie; 3. Tom W. Stewart, Thurso; 4. J. Lornie, Edinburgh; 5. W. E. Wait, London; 6. Walter A. Forsyth, Galashiels; 7. A. S. Millard, Nottingham.

JOHN S. FLETT, M.B., B.Sc., *Lecturer.*

### ENGINEERING FIELD WORK.

CERTIFICATES OF HONOUR.—1. D. P. Grubb (*Medal*); 2. T. P. W. Barty; 3. C. Marie; 4. A. H. Armstrong; 5. D. W. Durie; 6. W. Bruce and R. J. Inglis—equal; 8. H. C. Long; 9. J. D. Evans and W. Gordon—equal; 11. F. G. Carron.

G. F. ARMSTRONG, M.Inst., C.E., *Professor.*

### ORGANIC CHEMISTRY.

FIRST-CLASS HONOURS.—1. Forsyth J. Wilson (*Medallist*); 2. J. K. H. Inglis; 3. D. Drysdale; 4. D. Menzies; 3. A. R. Normand. SECOND-CLASS HONOURS.—6. J. M. Nisbet; 7. D. J. Mitchell; S. J. C. Cameron; 9. W. Anderson and R. D. Bell—equal; 11. A. Bruce; 12. D. M. Johnstone.

ALEX. CRUM BROWN, M.D., D.Sc., *Professor.*

### MINERALOGY AND CRYSTALLOGRAPHY.

FIRST-CLASS HONOURS.—1. John M. Newton, Broughty-Ferry (*Medallist*); 2. C. E. Fawsitt, Glasgow; 3. Andrew Young, M.A., Edinburgh.

SECOND-CLASS HONOURS.—4. Walter A. Forsyth, Galashiels.

HUGH MARSHALL, D.Sc., *Lecturer.*

### PLANT PHYSIOLOGY.

1. Samuel Gray, Scotland (*Medallist*); 2. Alexander Miller, Scotland; 3. G. D. Matthewson, Dunfermline; 4. Grace H. Jacob, England; 5. Francis R. Paterson, Scotland; 6. John M'Dowall, Scotland.

A. W. BORTHWICK, B.Sc., *Lecturer.*

WINTER SESSION, 1899-1900.

ASTRONOMY.

1. G. A. Russell, M.A. and Alice B. Lennie, M.A.—equal (*Medals and Prizes*); 3. David Drysdale, M.A.; 4. William Scott; 5. Janet M. Macqueen.

RALPH COPELAND, Ph.D., *Professor*.

GEOLOGY AND MINERALOGY.

1. Robert Burns Young, M.A., Edinburgh (*Medallist*); 2. John Falconer, Scotland; 3. Forsyth J. Wilson, Scotland; 4. Robert D. Bell, Scotland, and Francis H. Gray, Elgin—equal; 6. Arthur W. Madeson, Portobello; 7. T. A. Temple, Edinburgh; 8. Hugh J. C. Kinghorn, Scotland; 9. A. Bruce, Dundee; 10. A. F. M. Clerk, Kirkcaldy, Walter A. Forsyth, Galashiels, and George Mill, Scotland—equal; 13. G. O. M'Nab, Scotland; 14. Herbert A. Jack, Scotland; 15. Henry Crombie, Perth; 16. James B. M'Donald, Scotland, and Joseph N. Marston, U.S. America—equal; 18. James Chalmers, Edinburgh; 19. Joseph S. Martyn, Madras, and Robert Moyes, Scotland—equal; 21. Alexander L. Pearson, Scotland; 22. Robert Hamilton, Scotland, T. Gray Philip, and Fred. D. Sime, Scotland—equal.

PRACTICAL GEOLOGY AND MINERALOGY.

1. Charles Anderson (*Medallist*); 2. William Gentle; 3. Forsyth James Wilson; 4. John Falconer; 5. W. A. Forsyth; 6. R. D. Bell; 7. Arthur W. Madsen; 8. Alistair Macknight; 9. Alexander Bruce; 10. Earnest Shearer; 11. Robert Hamilton; 12. Joseph Samuel Martyn.

JOHN S. FLETT, M.A., B.Sc., M.B., C.M., *Demonstrator*.

JAMES GEIKIE, D.C.L., LL.D., *Professor*.

PLANT PHYSIOLOGY.

1. Alexander Bruce (*Medallist*); 2. Charlotte R. Greenfield; 3. J. R. Davidson; 4. D. S. Rabagliati; 5. Euphemia D. M'Ritchie; 6. John M'Gilchrist.

A. W. BORTHWICK, B.Sc., *Lecturer*.

SYSTEMATIC ENGINEERING.

- HONOURS CERTIFICATES.—1. D. Paton Grubb and J. M. Newton—equal (*Medals*); 3. A. H. Armstrong and R. G. Russell—equal (*Prizes*); 5. T. P. W. Barty and A. F. M. Clark—equal; 7. Cyril J. Walker.

G. F. ARMSTRONG, M.Inst.C.E., *Professor*.

# GEOMETRICAL AND MECHANICAL DRAWING.

HONOURS CERTIFICATES—1. John M. Newton (*Medal*); 2. Robert G. Russel (*Prize*); 3. Alfred H. Armstrong; 4. Cyril J. Walker; 5. David W. Durie; 6. A. T. M. Clark.

W. HUME KERR, M.A., B.Sc., *Lecturer.*

# DYNAMICS (ENGINEERING).

FIRST-CLASS HONOUR.—1. David P. Grubb, Dundee (*Medal*).

SECOND-CLASS HONOURS.—2. Thomas P. W. Barty, Dunblane; 3. D. W. Durie, Scotland.

C. G. KNOTT, D.Sc., *Lecturer.*

# AGRICULTURAL AND RURAL ECONOMY.

1. Samuel Simpson, Whalley, Lancashire (*Medallist*); 2. William Bruce, Laurencekirk; John T. Craw, Chirnside; John Noble Jack, Enon Bridge; Alexander Rose Munro, Alness; and John Trotter, Edinburgh—equal; 7. Harold C. Long, Cheshurst, Herts; 8. John A. Harley, Edinburgh, and David Black, Thornton, Fife—equal; 10. John Aitchison, Coldstream; 11. David James Small, Edinburgh; D. Hay Thorburn, Leith, and Thomas Usher, Hawick—equal; 14. John Anderson, Watten, Caithness; 15. Samuel Wright, Edinburgh; 16. William W. Kerr, Edinburgh; 17. John Harry Oström, Gothenburg, Sweden.

REPORT ON AGRICULTURE CLASS EXCURSIONS.—John Noble Jack and Samuel Simpson—equal (*Medallists*).

STEVEN SCHOLARSHIP OF ABOUT £70.—John Trotter.

HIGHLAND AND AGRICULTURAL SOCIETY PRIZES.—(Books).—1. William Bruce, £4; 2. Samuel Simpson, £3, and John Noble Jack, £3.

ROBERT WALLACE, *Professor.*

# AGRICULTURAL CHEMISTRY.

ADVANCED CLASS.—John Trotter (*Medal*).

ORDINARY CLASS.—1. Samuel Simpson (*Medal*); 2. Harold C. Long; 3. John A. Harley; 4. David Black.

A. P. AITKEN, M.A., D.Sc., *Lecturer.*

# AGRICULTURAL ENTOMOLOGY.

1. D. S. Rabagliatti (*Medallist*); 2. William Bruce; 3. Samuel Simpson; 4. H. C. Long; 5. J. A. Harley; 6. John Trotter; 7. Thomas Usher; 8. J. H. Oström; 9. David Black; 10. James Anderson; 11. Samuel Wright.

W. FREAM, LL.D., B.Sc., *Lecturer.*

# FORESTRY.

2. Alexander T. Crombie, Powerscourt (*Medal and Prize*); 2. John H. Oström, Sweden.

FRED. BAILEY, *Lecturer.*

## Faculty of Divinity.

WINTER SESSION, 1899-1900.

DIVINITY.

THIRD YEAR.

PRIZEMEN.—1. Richard Bell, M.A.; 2. Bruce M'Ewen, M.A.;  
3. John Dickie, M.A.

HONOURABLE MENTION.—1. Donald Lamont, M.A.; 2. A. J. Campbell, M.A.; 3. Lewis M'Glashan, M.A.

SECOND YEAR.

PRIZEMEN.—1. William A. Curtis, M.A.; 2. William A. Dunnett, M.A.; 3. A. S. Ballantyne, M.A.; 4. Henry C. Duncan, M.A., and James Kirk, M.A.—equal.

FIRST YEAR.

PRIZEMEN.—1. Oswald B. Milligan, M.A.; 2. William A. Mowat, M.A.; 3. A. M. Anderson, M.A.

R. FLINT, D.D., *Professor.*

### BIBLICAL CRITICISM AND BIBLICAL ANTIQUITIES.

PRIZEMEN.—1. William A. Curtis, M.A., Edinburgh (*Medallist*); 2. David Nelson, M.A., Edinburgh, and Donald Lamont, M.A., Argyleshire—equal; 4. Lewis M'Glashan, M.A., London, and James Black, M.A., Elgin—equal; 6. William A. Dunnett, M.A., Kilmarnock; 7. Richard Bell, M.A., Dumfriesshire.

HONOURABLE MENTION.—James Kirk, M.A.; Henry C. Duncan, M.A.; Bruce M'Ewen, M.A.; G. H. Donald, M.A.

VOLUNTARY ESSAYS.—Alexander B. Robb, M.A.

JOHN PATRICK, D.D., *Professor.*

### ECCLESIASTICAL HISTORY.

PRIZEMEN.—1. Richard Bell, M.A., Dumfriesshire (*Medallist*); 2. Lewis M'Glashan, M.A., Dumfriesshire; 3. Donald Lamont, M.A., Argyleshire; 4. John Dickie, M.A., Aberdeenshire; 5. William A. Curtis, M.A., Edinburgh.

HONOURABLE MENTION.—Bruce M'Ewen, M.A., Stonehaven.

M. C. TAYLOR, D.D., *Professor.*

### HEBREW AND SEMITIC LANGUAGES.

SENIOR HEBREW.

PRIZEMEN.—1. Robert W. Malseed, B.A., Londonderry (*Medallist*); 2. Charles G. Mackenzie, B.D., Aberdeenshire; 3. William A. Curtis, M.A., Edinburgh; 4. William Porter, M.A., Edinburgh.

462 *Faculty of Law—Class Prize and Honours Lists.*

SECOND-CLASS CERTIFICATES OF MERIT.—5. Oswald Milligan, M.A., Edinburgh ; 6. William Murdie, M.A., Sutherlandshire ; 7. James Kirk, M.A., Fifeshire ; 8. Archibald S. Ballantyne, M.A., Galashiels, and H. C. Duncan, M.A., Edinburgh—equal.

JUNIOR HEBREW.

PRIZEMEN.—1. Macduff F. Simpson (Arts), Berwickshire (*Maeallist*) ; 2. William A. Mowat, M.A., London ; 3. David H. Sawers, M.A., Edinburgh.

SECOND-CLASS CERTIFICATE OF MERIT.—4. John R. Hutton (Arts), Birkenhead.

JUNIOR ARABIC.

PRIZEMAN.—John Paton, B.A., Londonderry.

SENIOR SYRIAC.

NO AWARD.

A. R. S. KENNEDY, *Professor.*

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## Faculty of Law.

### SUMMER SESSION, 1899.

#### CIVIL LAW.

1. John Pattison, M.A., Edinburgh (*Muirhead Prize*) ; 2. J. C. Fenton and John Watson—equal ; 4. J. C. Guthrie (*Prizemen*) ; 5. F. C. Thomson, B.A., Oxon. ; 6. D. M. Burden, M.A., Edinburgh ; 7. George Worrall ; 8. T. A. Menzies, M.A., Edinburgh ; 9. W. H. Meikle.

JAMES MACKINTOSH, B.A., *Professor.*

#### SCOTS LAW.

1. Walter T. Watson, Mid-Lothian ; 2. J. H. Henderson, Lanarkshire, John M. Vallance, Mid-Lothian—equal ; 4. G. K. Allan, Mid-Lothian (*Prizemen*) ; 5. Andrew F. Steele, Fife ; 6. John S. Mackay, Stirlingshire ; 7. Robert J. Irving, Mid-Lothian ; 8. W. M. Hay, Banffshire ; 9. George S. Macknight, West Lothian ; 10. Andrew Bennett, Fife ; 11. Thomas J. Cook, Inverness-shire ; 12. W. R. Ramsay, Mid-Lothian ; 13. John D. Muruoch, Lanarkshire ; 14. Thomas Curran, Selkirkshire ; 15. Robert Smith, Perthshire ; 16. James Mowat, Kincardineshire ; 17. Robert Stewart Brown, Mid-Lothian ; 18. John Beaven Harries, Carmarthen ; 19. J. W. Pitcairn, Mid-Lothian ; 20. L. H. Strain, Lanarkshire.

ESSAY PRIZES.—1. Walter T. Watson ; 2. John M. Vallance ; 3. J. H. Henderson.

JOHN RANKINE, Q.C., M.A., LL.D., *Professor.*



### FORENSIC MEDICINE.

1. D. M. Burden (*Medallist*); 2. J. H. Henderson; 3. Chas. B. Milne; 4. J. Campbell Smith; 5. Guy Speir; 6. Alfred M. Laing and Kerr A. Simpson—equal; 8. Laurence H. Strain; 9. W. S. Colville; 10. W. T. Watson and F. C. Thomson—equal; 12. R. W. Cockburn; 13. G. Dungen.

HENRY D. LITTLEJOHN, Kt., M.D.

### INTERNATIONAL PRIVATE LAW.

1. George Worrall, West Newport, Fife; 2. Alex. Steedman, Edinburgh (*Class Prizes*); 3. J. A. Menzies, England; 4. John Pattison, M.A., Edinburgh; 5. W. H. Meikle, Edinburgh; 6. W. S. Colville, Edinburgh; 7. Alfred M. Laing, Dunphail, Morayshire; 8. J. D. Little, England.

SPECIAL CERTIFICATE. — Paul Foerster, Mulhausen (unavoidably absent from one examination.)

N. J. D. KENNEDY, M.A., *Lecturer*.

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### WINTER SESSION, 1899-1900.

#### PUBLIC LAW.

PRIZEMEN—1. J. Hossell Henderson; 2. W. A. Fleming (*Thow scholar*) and M. Millar Craig—equal; 3. J. C. Fenton and T. J. Carlyle Gifford—equal.

HONOURS.—6. D. O. Dykes; 7. J. A. Cameron and C. Jamieson—equal; 9. R. W. Cockburn and J. Macdonald—equal.

ESSAY PRIZE.—“The Lawyer in History”—J. Hossell Henderson.

L. J. GRANT, Bart., B.A., *Professor*.

#### CIVIL LAW.

1. W. H. Meikle, M.A., Edinburgh; 2. A. M. Mackay, B.A., Cantab; 3. M. Miller Craig (*Prizemen*); 4. T. J. C. Gifford and J. Williamson—equal; 6. B. S. Bramwell, B.A., Cantab; 7. J. S. Kinghorn; 8. J. M. Mackay, M.A., Abdn.; 9. W. D. Davies Bowden and T. Gillespie, M.A., St Ands.—equal; 11. J. W. Somerville; 12. H. L. F. Fraser, M.A., Abdn.

JAMES MACKINTOSH, B.A., *Professor*.

### CONSTITUTIONAL LAW AND HISTORY.

1. William A. Fleming (*Thow scholar*); 2. John Watson; 3. J. C. Fenton and James Scott (*Prizemen*); 5. M. Millar Craig and Charles Jamieson; 7. B. S. Bramwell, James Macdonald, H. M. Simson, and William Smith; 11. A. S. Pringle; 12. James A. Cameron, and J. M. Mackay, M.A.

HONOURABLE MENTION FOR PART OF CLASS WORK.—1. James Williamson (additional prize); Henry L. H. Fraser; 3. A. M.

464 *Faculty of Medicine—Class Prize and Honours Lists.*

Mackay, B.A., M.A.; 4. James S. Miller; 5. Thomas Gillespie;  
6. D. Oswald Dykes.

J. KIRKPATRICK, LL.B., LL.D., *Professor.*

SCOTS LAW.

1. James Ireland, Forfarshire (*Thoro scholar*); 2. John Aitken, Morayshire; 3. G. W. B. Campbell, Midlothian; 4. D. M. Burden, M.A., Forfarshire; 5. William Littlejohn, Aberdeenshire; 6. W. R. Millar, Forfarshire; 7. Maurice Miller, Midlothian, and Robert T. Milne, Banffshire—equal (*Prisemen*); 9. James B. Mackie, Lanarkshire; 10. John H. Robb, Elginshire; 11. Andrew Nicoll, jun., Fifehire; 12. David Ovens Drummond, Roxburghshire; 13. Tom A. Menzies, M.A., Yorkshire; 14. William Robertson, jun., Midlothian; 15. James L. Henderson, Stirlingshire; 16. A. C. Higgins, Stirlingshire; 17. William Forrest French, Mid-Lothian; 18. Ronald Burness, Mid-Lothian; 19. Arthur S. Dickson, Perthshire; 20. William Hamilton Gray, Lanarkshire; 21. Ben Pinkerton, Midlothian, and James B. Connon, Kincardineshire—equal.

JOHN RANKINE, Q.C., M.A., LL.D., *Professor.*

CONVEYANCING.

1. John M. Vallance (*Thoro scholar*); 2. A. P. Nimmo; 3. George S. Macknight; 4. Andrew Bennett; 5. George Kerr Allan and Robert B. Black—equal; 7. William M. Hay; 8. R. S. Brown (*Prisemen*); 9. William M. Henderson; 10. John S. Mackay; 11. Andrew F. Steele; 12. C. P. Symington; 13. Thomas Curran; 14. Charles Skinner; 15. George Nicolson; 16. John D. Murdoch; 17. A. C. M. Bell; 18. John T. Watson; 19. Clarence G. Kerr; 20. Peter R. Duncan; 21. William Blackstock; 22. John Scott; 23. Thomas C. Lowe; 24. J. Hosell Henderson.

J. INGLIS, W.S., *Interim Professor.*

PROCEDURE AND EVIDENCE.

PRIZEMAN.—James Young, Dunfermline.

FIRST-CLASS HONOURS.—D. Robertson, LL.B., Edinburgh; F. C. Thomson, B.A., Edinburgh.

J. J. COOK, LL.B., *Lecturer.*

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*Faculty of Medicine.*

SUMMER SESSION, 1899.

ELEMENTARY BOTANY.

FIRST-CLASS HONOURS.—1. John Lauder, Scotland; 2. Arthur C. Strain, Rattray; 3. Cameron R. Gibson, Carlisle, and William C. Morton, Trinidad—equal; 5. Thomas Peebles, Edinburgh (*Medal*).

*lists*); 6. Grahame H. Skinner, Forfar; 7. John Michael Dewar, Kirriemuir; 8. John Tait, Orkney; 9. E. Henderson, Scotland, and James D. M'Leod, Burntisland—equal.

SECOND-CLASS HONOURS.—11. John Hunter Kay, Ayrshire; 12. Labbhu Ram, India; 13. David G. Mitchell, Edinburgh, and R. S. Enever Todd, Musselburgh—equal; 15. John Saffley, Dumfriesshire; 16 John Halley, Perth, and J. Henderson-Smith, Scotland—equal; 18. Walter J. Colebatch, England, and G. D. Mathewson, Dunfermline—equal; 20. Thomas H. Easton, Scotland; 21. John Dudgeon Giles, Edinburgh; P. W. Mason, New Zealand; and J. A. Pottinger, Orkney—equal; 24. J. W. M. Beyers, Cape Colony; 25. John Bennet M'Neil, Edinburgh, and Hugh Lennox Munro, Brigg, Lincolnshire—equal; 27. John M. Darling, Edinburgh; 28. J. C. Keir, Wiltshire, and Don M. M'Lean, Scotland—equal; 30. N. Douglas Mackay, Aberfeldy; 31. J. S. Martyn, Madras; 32. Charles D. Lochrane, Glasgow, and Arthur O. P. Reynolds, Reigate, Surrey—equal; 34. J. Allan Anderson, Edinburgh; Henry Caird, Scotland; John Fortune, Scotland; Wm. Fowler, Hawick; and Wm. Sibbald Robertson, Berwickshire—equal; 39. J. And. Roux, Cape Colony; 40. T. T. Thomson, India; 41. Alex. R. Berrie, India; John Findlay, New Zealand; Gordon S. Mackay, Aberfeldy; 44. Francis R. Paterson, Dumfriesshire, and Ernest A. Turpin, Tobago—equal; 46. John Grieve, Edinburgh, and W. H. Davison, Ireland—equal; 48. J. Randolph, Davidson, Falkirk; Arnold S. S. Biggart, West Hartlepool; G. Staunton Husband, Jamaica; and James B. Mears, Tynemouth—equal; 52. John Hunter, Musselburgh; Lewis A. H. Lack, Trinidad; D. Duncan Paton, Carnoustie; D. S. Rabagliati, Bradford; and Alex. S. Gordon, Bathgate—equal; 57. James A. Glover, Scotland; Alex. Gray, Perthshire; and J. J. H. Ferguson, Cardiff—equal; 60. Thomas B. Mouat, Haddington; and C. F. A. Oberlander, Cape Colony—equal.

## ELEMENTARY PRACTICAL BOTANY.

### CLASS A.

FIRST-CLASS HONOURS.—1. Thomas Peebles, Edinburgh; 2. J. Allan Anderson, Edinburgh (*Medallists*); 3. John Grieve, Edinburgh; 4. W. H. Nutt, Beeston, Notts; 5. R. A. L. Van Someren, Straits Settlement; 6. P. W. Mason, New Zealand; 7. H. L. Munro, Brigg, Lincolnshire, and John M. Darling, Edinburgh—equal.

SECOND-CLASS HONOURS.—9. John Hunter Kay, Ayrshire; 10. W. C. Morton, Trinidad, and John M. Beyers, Cape Colony—equal; 12. Charles D. Lochrane, Scotland, and Hugh A. Stewart, Blair Atholl—equal; 14. J. W. Keay, Scotland, and John M. Lovett, England—equal; 16. Hubert Simpson, Scotland, and John Halley,

## 466 *Faculty of Medicine—Class Prize and Honours Lists.*

Scotland—equal ; 18. W. H. Forsyth, Windygates, Fife ; Wilson Smith, Melrose ; and David P. Marais, Cape Colony—equal.

### CLASS B.

FIRST-CLASS HONOURS.—1. Cameron R. Gibson, Carlisle ; 2. Thomas H. Easton, Scotland (*Medallists*) ; 3. D. Charles Welsh, Selkirk ; 4. J. C. Keir, Wiltshire ; 5. A. N. Fraser, Falkirk ; 6. D. W. Boswell, Norfolk ; 7. Thomas Campbell, Scotland, and Hope M. Gillespie, Kirkgunzeon—equal.

SECOND-CLASS HONOURS.—9. Hector M'Kay, Birkenhead ; 10. Alex. Gray, Perthshire, and E. Henderson, Scotland—equal ; 12. Norman Sturrock, Edinburgh, and David G. Mitchell, Edinburgh—equal ; 14. Grahame H. Skinner, Forfar ; 15. W. Readman, England ; 16. John Tait, Orkney ; 17. Albert E. Hodgson, England ; 18. R. S. Enever Todd, Musselburgh, and Harley P. Milligan, Birkenhead—equal.

### FOR DRAWINGS ILLUSTRATING WORK DONE DURING THE SESSION.

FIRST-CLASS HONOURS.—1. Philip H. Mules, New Zealand ; 2. James Davidson, Berwick-on-Tweed ; 3. T. B. Mouat, Haddington ; 4. R. W. Craig, Scotland ; 5. J. Randolph Davidson, Falkirk (*Prizes*) ; 6. Robert Crothers, Ireland, and Gilbert Farie, Bridge of Allan—equal.

SECOND-CLASS HONOURS.—8. H. Lennox Munro, Brigg, Lincolnshire ; 9. Oliver Smith, Lincoln ; 10. William Sanderson, Tranent ; 11. James B. Mears, Tynemouth ; 12. G. H. L. Fitzwilliams, Wales, and John A. Pottinger, Orkney—equal ; 14. John Halley, Perth, and A. E. Heskett, England—equal.

### FOR MICROSCOPIC PREPARATIONS MADE DURING THE SESSION.

FIRST-CLASS HONOURS.—1. H. Lennox Munro, Brigg, Lincolnshire ; 2. D. Charles Welsh, Selkirk (*Prizes*) ; 3. John Hunter Kay, Ayrshire ; 4. R. A. L. Van Someren, Penang, Straits Settlements.

SECOND-CLASS HONOURS.—5. James Davidson, Berwick-on-Tweed ; 6. J. C. Keir, Wiltshire ; 7. E. A. Elder, Edinburgh ; 8. Hope M. Gillespie, Kirkgunzeon

ISAAC BAYLEY BALFOUR, M.D., D.Sc., *Professor.*

### ELEMENTARY ZOOLOGY.

FIRST-CLASS HONOURS.—1. John Tait ; 2. Cameron R. Gibson ; 3. E. Henderson (*Medallist*) ; 4. J. Allan Anderson ; 5. J. D. Giles ; 6. W. C. Morton, Thomas Peebles, and Graham H. Skinner—equal.

SECOND-CLASS HONOURS.—9. John Kirk ; 10. R. S. Enever-Todd ; 11. N. Douglas Mackay ; 12. John Bennett M'Neil ; 13. John M. Lovett ; 14. E. A. Elder, and M. A. Murray—equal ; 16. D. M. Maclean, R. A. L. Van Someren, and Ernest A. Turpin—equal.

### PRACTICAL ZOOLOGY.

FIRST-CLASS HONOURS.—1. John Tait ; 2. R. S. Enever-Todd (*Medallists*) ; 3. Cameron R. Gibson ; 4. Alastair N. Fraser ; 5. N. D. Mackay, and R. A. L. Van Someren—equal.

SECOND-CLASS HONOURS.—7. W. Morton ; 8. J. Allen Anderson ; 9. John McDonald, Gordon S. Mackay, J. Gilchrist, and W. H. Nutt—equal.

J. C. EWART, M.D., *Professor.*

### PRACTICAL CHEMISTRY.

FIRST-CLASS HONOURS.—1. Wm. Gentle, Edinburgh (*Medallist*) ; 2. J. Newall, Dalbeattie ; 3. H. J. Stewart, Australia ; 4. E. E. Wood, Cape Colony.

SECOND-CLASS HONOURS.—5. C. M. Begg, Dunedin ; 6. Archibald Simpson, Tranent ; 7. Dawood Bhoy, Hyderabad.

ALEX. CRUM BROWN, M.D., *Professor.*

### PHYSICS.

FIRST-CLASS CERTIFICATES.—1. A. Balfour ; 2. J. Lauder (*Medallists*) ; 3. J. M. Dewar and D. Forbes—equal ; 5. J. A. Roux and T. H. Easton—equal ; 7. H. Bennitt and W. H. Davison—equal ; 9. L. A. H. Lack, L. Ram, and O. Smith—equal ; 12. J. H. Kay, C. Porter, and F. H. Borthwick—equal ; 15. J. Halley ; 16. J. A. Pottinger.

SECOND-CLASS CERTIFICATES.—17. D. P. Marais and W. H. Welsh—equal ; 19. H. L. Munro and R. C. Verley—equal ; 21. C. F. A. Oberlander and D. E. C. Pottinger—equal ; 23. A. R. Berrie, R. W. Craig, W. B. Cullen, and H. M. Gillespie—equal ; 27. T. B. Mouat and W. G. Orr—equal.

P. G. TAIT, M.A., *Professor.*

### SENIOR PRACTICAL ANATOMY.

FIRST-CLASS HONOURS.—G. C. Burgess, Aberdeen (*Medallists*) ; 2. H. P. Thompson, Crowland, and D. A. Stewart, London—equal ; 4. A. H. Firth, Edinburgh ; Lawrence Rundall, London ; R. Dods Brown, Edinburgh ; and D. G. Carmichael, Calcutta—equal ; 8. D. R. MacGregor, Dunfermline ; 9. D. M. Callendar, Edinburgh, and Ian Struthers Stewart, Langholm—equal ; 11. E. M. Glanville, London ; George M'Neill, East Lothian, and J. H. Meikle, Inverary—equal ; 14. John Sullivan, Edinburgh, and E. C. Gimson, Essex—equal ; 16. W. A. Robinson, New Zealand, and C. F. T. Scott, Ireland—equal ; 18. David Young, Elgin ; 19. Evan Macmillan, Edinburgh ; 20. E. G. H. Mackenzie,



468 *Faculty of Medicine—Class Prize and Honours Lists.*

Argyllshire ; 21. R. T. Young, Edinburgh, and A. L. Roxburgh, Ayrshire—equal ; 23. C. W. V. Rutherford, Roxburghshire.  
SECOND-CLASS HONOURS.—24. W. J. Crow, Edinburgh ; 25. Wm. Murray, Aberdeen, and John Wallace, Lanark—equal ; 27. J. M'B. Taylor, Edinburgh ; 28. Baba M. S. Sodhi, Amritsar, Panjab ; 29. J. M. Glasse, Edinburgh ; 30. K. A. Cappie, Edinburgh, and W. C. P. White—equal.

FIRST AND SECOND YEARS.

(Examinations conducted on the Students' Own Dissections.)

FIRST-CLASS HONOURS.—1. S. A. Ellerbek, Denmark, and Matthew Holmes, New Zealand—equal (*Medallists*) ; 3. Wilbert Goodchild, Westmoreland, and John Dunlop, Lanark—equal ; 5. T. B. Hamilton, Melrose, and J. M. Kirkness, Edinburgh—equal ; 7. A. N. Fell, New Zealand ; Wm. Mackenzie, Elgin ; T. H. Osler, Cape Colony ; and A. M. Sharp, Galashiels—equal ; 11. Wm. Hume, Australia, Henry Herd, Leith, and E. S. L. Meynell, India—equal ; 14. Alex. Gray, Perthshire ; John Halley, Perth ; Dan. Mackinnon, Edinburgh ; and R. P. M'Neil, Stranraer—equal ; 18. C. M. Campbell, Edinburgh ; A. J. Rowan, Cape Colony ; and Henry Spiers, Berwickshire—equal ; 21. J. R. Bosman, Cape Colony ; A. K. Baxter, Leith ; J. M. Johnston, Mid-Calder ; A. M. Moll, Orange Free State ; and J. S. Sewell, Northumberland—equal ; 26. W. E. Marshall, Perth ; W. F. Macdonald, Inverness ; and J. A. Raubenheimer, Cape Colony—equal ; 29. Harold Kerr, London ; Wm. Lilico, Ireland ; E. J. Morton, Edinburgh ; J. E. Scott, Northumberland ; and G. W. Young, London—equal ; 34. Archd. Brownlie, Fauldhouse ; 35. Louis Turiansky, Edinburgh ; 36. D. M'K. Crooks, Jamaica ; 37. Ernest Muir, Banffshire ; 38. A. H. Rabagliati, Bradford ; E. J. Taylor, Cupar Fife ; and Wm. Young, Stirlingshire—equal.

D. HEPBURN, M.D., *Lecturer.*

WM. TURNER, Kt., M.B., *Professor.*

PRACTICAL PHYSIOLOGY.

FIRST-CLASS HONOURS.—1. T. F. Cavanagh, Ireland ; T. B. Hamilton, Melrose ; and Henry Herd, Leith—equal ; 4. R. E. Russell, Cape Town (*Medallists*) ; 5. C. M. Campbell, Edinburgh, and R. C. Low, Edinburgh—equal ; 7. J. M. Johnstone, Scotland ; 8. J. Dunlop, Lanark ; 9. S. C. Ellison, Ireland ; 10. E. A. Braine, Montrose, and S. A. Moore, New Zealand—equal ; 12. A. A. Hall, Leith ; 13. W. Lilico, Ireland ; J. H. Montgomery, Belfast ; and A. M. Sharp, Galashiels—equal ; 16. J. M. Kirkness, Edinburgh ; 17. A. W. M. Harvey, Nova Scotia ; 18. W. F. Smeall, Jedburgh ; 19. J. Fairbairn, British Guiana, and T. W. E. Ross, London—equal.  
SECOND-CLASS HONOURS.—21. W. Bennett, Ireland ; 22. D. M. Callender, Scotland, and J. S. Elliot, New Zealand—equal ; 24.



T. H. Ostler, Cape Colony ; 25. D. J. Hamman, Cape of Good Hope, and W. E. Marshall, Perth—equal ; 27. H. N. Fletcher, Norwich, and J. Henderson, Ayr—equal ; 29. H. S. Davidson, Melrose ; J. C. Loudon, Trinidad ; and E. L. Meynell, India—equal ; 32. A. M. Caverhill, Jedburgh ; J. H. Connolly, Ireland ; A. N. Fell, New Zealand ; M. Molmes, Edinburgh, and P. El-Karey, Syria—equal ; 37. W. Newlands, New Zealand, and A. B. dos Remedios, Goa—equal ; 39. G. B. Brand, Bathgate, and D. P. Goil, India—equal ; 41. J. S. Sewell, Hexham ; 42. H. H. Robarts, London ; 43. J. Girdwood, Ayr ; 44. C. L. Eyles, India ; E. J. Taylor, Cupar ; and P. Vickers, Jamaica—equal ; 47. A. Brownlie, Fauldhouse, and J. W. Cathles, Edinburgh—equal ; 49. H. J. Dunbar, Dunfermline ; F. H. Gibson, High Wycombe ; E. W. Smyth, Victoria ; and R. M. Walker, Stirling—equal ; 53. E. Steyn, Cape Colony ; 54. J. F. Duncan, New Zealand ; E. Muir, Banffshire ; and P. H. Mules, New Zealand—equal ; 57. C. H. Houghton, Ireland ; J. H. Jones, N. Wales ; W. F. Macdonald, Inverness ; and W. D. Wright, London—equal ; 61. W. Mackenzie, Edinburgh, and A. M. Moll, Orange Free State—equal ; 63. W. C. Burton, Guernsey ; H. Harding, Liverpool ; H. Kerr, London ; and E. J. Morton, Scotland—equal ; 67. W. Hume, Australia ; F. T. C. Linton, Edinburgh ; and D. D. Paton, Carnoustie—equal ; 70. R. Archibald, India ; C. M. Begg, New Zealand ; J. G. Briggs, India ; J. Dommissie, Cape Colony ; C. Nelson, Edinburgh ; H. Porter, Belfast ; and J. J. Redhead, Venezuela—equal ; 77. D. E. Derry, Middlesex, and P. B. Ghose, Trinidad—equal.

E. WACE CARLIER, M.D., *pro Professor*.

#### PRACTICAL MATERIA MEDICA.

FIRST-CLASS HONOURS.—1. T. B. Hamilton, Scotland ; 2. John Dunlop, Lanark (*Medallists*) ; 3. James Kirkwood, Scotland ; 4. William Newlands, New Zealand ; 5. William Bennett, Ireland ; 6. C. H. Houghton, Ireland ; and Andrew B. Ross, M.A., Scotland—equal.

SECOND-CLASS HONOURS.—8. William Lilico, Ireland ; 9. D. M. Callender, Edinburgh ; 10. William E. Marshall, Scotland ; 11. Wilbert Goodchild, Westmoreland, and Philip Vickers, Jamaica—equal ; 13. Archibald Brownlie, Scotland ; 14. D. M'K. Crookes, Jamaica, and James S. Sewell, England—equal ; 16. William Hume, Australia, and James M. Johnstone, Scotland—equal ; 18. D. Mackinnon, Scotland, and Thomas W. E. Ross, London—equal ; 20. G. B. Brand, Scotland, and John W. Cathles, Scotland—equal ; 22. C. M. Campbell, Scotland, and David R. MacGregor, Scotland—equal ; 24. C. L. Meynell, India ; 25. W. F. Macdonald, Scotland ; 26. John Roy Tannahill, Govan.

THOMAS R. FRASER, M.D., *Professor*.

JUNIOR PRACTICAL PATHOLOGY.

FIRST-CLASS HONOURS.—1. George R. Mill, Arbroath ; 2. R. T. Baillie, Brechin ; and James Halliday, Dumfries—equal ; 4. Peter Murray, M.A., Morayshire (*Medallists*) ; 5. W. E. Carnegie Dickson, B.Sc., Edinburgh, and Andrew Hunter, M.A., B.Sc., Edinburgh—equal ; 7. S. M. D. Campbell, Ireland ; and Harry L. Spark, Forfar—equal ; 9. Andrew C. Keay, Dunkeld, and William Lee, England—equal ; 11. J. R. Edward, Scotland ; A. E. Hunter, Eskbank, and George Pereira, Trinidad—equal ; 14. E. Eimslie Brown, Auchterarder ; A. W. Fuller, Berkshire ; A. L. Gurney, Jersey ; George S. Murray, Bo'ness ; W. S. Paton, India ; and G. C. I. Robertson, Clackmannan—equal ; 20. R. Ashleigh Glegg, Edinburgh ; P. F. M'Farlan, Dumfriesshire ; William Miller, Edinburgh ; David A. Ogilvie, Scotland ; and T. B. Shaw, Ireland—equal.

SECOND-CLASS HONOURS.—25. James Brownlee, Edinburgh ; Stephen Garvin, Ireland ; W. G. Porter, India ; and D. A. Stewart, London—equal ; 29. J. Woods, Belfast ; 30. R. A. J. Harper, Mid-Lothian ; William M'Dougall, Rothes ; C. W. Saleeby, Sussex ; and W. H. Swaffield, England—equal ; 34. Rudolph Hansen, Copenhagen ; David Munro, Littlehampton ; John M'Kenzie, Edinburgh, and Allan G. Waugh, Scotland—equal ; 38. George Burgess, Aberdeen ; P. V. Langmore, New South Wales ; and Fred E. Wilson, Scotland—equal ; 41. R. W. Buchanan, Edinburgh ; S. G. Peill, Madagascar ; and D. Sutherland, Strathspey—equal ; 44. D. C. Henry, Creetown ; 45. Henry Buist, Dundee ; 46. R. V. Clark, Edinburgh ; Charles Douglas, Lockerbie ; R. M. Grant, Inverness ; W. H. Prentice, M.A., Edinburgh ; and A. R. Wallis, Epsom—equal ; 51. J. F. Allan, Strathspey ; George M'Farland, New Zealand ; and Thomas A. Smyth, Ireland—equal ; 54. James Brocket, Lanarkshire ; W. Eggeling, Scotland ; and A. B. Flett, Edinburgh—equal ; 57. J. Dalgleish, British Guiana ; William Murray, Aberdeen ; L. W. Pole, Edinburgh ; P. S. Tillard, Kent ; and T. Lauder Thomson, London—equal ; 62. Alfred Brown, Edinburgh ; S. Lyle, Ireland ; and Michael W. Robertson, Scotland—equal ; 65. D. M. Aitken, Scotland, and W. Hamilton, Ireland—equal ; 67. A. F. Mackay, Cantyre, and E. A. Walker, Forfarshire—equal ; 69. Reginald Bradley, India ; J. G. M'Bride, Edinburgh ; and K. D. C. MacRae, Scotland—equal ; 72. Charles Choyce, New Zealand ; Edward P. Calder, Berwickshire ; A. R. Hallam, Sheffield ; J. P. Kennedy, Ireland ; and T. B. Paterson, M.A., Edinburgh—equal ; 77. Arthur H. Firth, Edinburgh ; 78. Howard G. Pesel, Yorkshire ; 79. James L. Dnnan, Edinburgh ; C. H. Lindsay, Ireland ; and J. L. Palmer, Dublin—equal ; 82. F. D. Scobie Mackenzie, New Zealand ; 83. J. W. Duffus, Edinburgh ; E. W.

Lewis, India; H. K. Macdonald, Scotland; and John B. M'Cutcheon, Ireland—equal.

Unavoidably absent from one examination.

SECOND-CLASS HONOURS.—R. A. Belilios, Calcutta; John Wallace, Lanark.

W. S. GREENFIELD, M.D., *Professor.*

#### OPERATIVE MIDWIFERY AND GYNECOLOGY.

FIRST-CLASS HONOURS.—1. W. J. Barclay, New Zealand, and F. A. F. Barnardo, India—equal (*Medallists*); 3. W. J. Jones, N. Wales; 4. Geo. Lyon, Scotland, and Wm. James Stuart, Edinburgh—equal; 6. James Orr, Scotland; 7. T. C. Mackenzie, China, and Louis W. Macpherson, Edinburgh—equal; 9. H. T. Holland, Cornhill-on-Tweed.

SECOND-CLASS HONOURS.—10. V. E. Sorapure, Jamaica; 11. J. D. Comrie, M.A., B.Sc., Scotland.

A. R. SIMPSON, M.D., *Professor.*

#### FORENSIC MEDICINE AND PUBLIC HEALTH.

(COMBINED COURSE.)

FIRST-CLASS HONOURS.—1. John G. Munro; 2. Robert W. Buchanan; 3. W. E. Carnegie-Dickson, B.Sc. (*Medallists*); 4. Andrew C. Keay; 5. R. A. Belilios; 6. R. J. Bradley and John W. Duffus—equal.

SECOND-CLASS HONOURS.—8. Neil F. M'Hardy; 9. David Munro; 10. Andrew Hunter; 11. R. T. Baillie; 12. Charles C. Choyce; 13. J. Graham M'Bride, W. MacDougall, and W. H. Winstanley—equal; 16. C. W. Saleeby; 17. Stephen Garvin, J. M'Kenzie, and G. Robertson Mill—equal; 20. James Brownlee, S. M. D. Campbell, and George S. Murray—equal; 23. Henry Buist; 24. E. S. Brett, James Halliday, and W. H. Prentice—equal; 27. William Eggeling and George M'Farland, —equal; 29. Hugh M. Roberts; 30. C. H. Lindsay, John L. Palmer, and G. Cecil Strathairn—equal; 33. E. Elmslie Brown, A. L. Gurney, Laurence W. Pole, and G. W. R. Skeen—equal; 37. Roderick M. Grant; 38. J. F. Allan, J. R. Edward, and Sydney G. Peill—equal; 41. William Brown, J. H. Harvie-Pirie, Thomas Lauder Thomson, and James Woods—equal; 45. R. V. Clark and Michael W. Robertson—equal; 47. James Brocket and H. K. Macdonald—equal; 49. Edward P. Calder, R. E. Collins, Rudolph Hansen, James Price Kennedy, Arthur H. Reid, John Sullivan, and W. L. Trafford—equal; 56. W. H. Dickinson and David Sutherland—equal; 58. David C. Henry, Edgar Jones, Percy N. Langmore, Peter Murray, Thomas B. Paterson, M.A., Andrew L. Roxburgh, and Thomas A. Smyth—equal; 65. George C. Burgess, R. Ashleigh Glegg, R. A. J. Harper, S. Lyle, Walter Scott Patton, G. C. I. Robertson, and Henry L. Spark—

## 472 *Faculty of Medicine—Class Prize and Honours Lists.*

equal; 72. D. Macrae Aitken, James L. Duncan, and John B. M'Cutcheon—equal; 75. A. R. Hallam and Ernest A. Walker—equal; 77. William A. Duncan, Arthur H. Firth, A. E. Hunter, and Ian Struthers Stewart—equal; 81. Robert Murray and James S. Eadie Robertson—equal; 83. J. M. Dupont and W. A. Robinson—equal; 85. Archie Dodds, Charles Douglas, and P. F. MacFarlan—equal; 88. William Hamilton, F. D. Scobie Mackenzie, Thomas Mill, Howard G. Pesel, and A. Ransome Wallis—equal; 93. David A. Ogilvie and Edwin Wells—equal; 95. George Pereira, Francis L. Rigby, C. W. Somerville, Philip Snow Tillard, and T. S. Beauchamp Williams—equal; 100. William Lee, William Murray, W. G. Porter, H. St J. Randell, and Allan G. Waugh—equal; 105. T. B. Shaw and Arthur J. de Spiganovicz—equal; 107. John Ferrier; 108. V. C. de Boinville, Alexander P. Cunningham, A. W. Hauman, Wilfrid M'Farlane, William Mair, and R. H. Martin—equal.

HENRY D. LITTLEJOHN, Kt., M.D., }  
C. HUNTER STEWART, M.B., D.Sc., } *Professors.*

### MENTAL DISEASES.

FIRST-CLASS HONOURS.—1. George Scott Carmichael; 2. Robert Affleck; 3. Andrew Fleming; 4. Henry J. M'Lean (*Medallists*); 5. L. C. Peel Ritchie and James G. S. Jamieson—equal; 7. Thomas H. W. Alexander, F. W. Harlin, and Henry J. Hoile—equal; 10. A. A. Martin and John B. Primmer—equal.

SECOND-CLASS CERTIFICATES.—12. J. M. A. Macmillan; 13. A. Murray Wood; 14. T. Grainger Stewart; 15. Simon A. Ballantyne, William P. Cormack, and John Craig—equal; 18. Alexander J. Baird, Alexander Frew, and William Lock—equal; 21. Herbert Harris and Norman S. Wells—equal; 23. G. Reynolds Turner and Norman Patterson—equal; 25. Harvey Bain, Dundas Macnight, and James Munro—equal; 28. Francis K. Kerr; 29. A. Campbell Lennie and John G. Mackenna—equal; 31. F. C. Matthew and Alexander J. Mackenzie—equal; 33. T. G. G. and F. D. Simpson—equal; 35. O. Charnock Bradley, William E. Frost, Edward J. Jamieson, and J. C. Kennedy—equal; 39. C. H. Allen and J. M. L. Brown—equal; 41. George J. R. Carruthers and Henry Alexander—equal; 43. L. C. Rentoul, G. B. A. Speirs, and William Sloss—equal; 46. D. Heron; 47. H. M. Malcolmson.

T. S. CLOUSTON, M.D., *Lecturer.*

### DISEASES OF THE EYE.

FIRST-CLASS CERTIFICATES.—1. Angus M'Nab; 2. Robert Affleck and H. J. M'Lean—equal (*Medallists and Prizemen*); 4. William G. Cormack, J. G. S. Jamieson, James Munro, Alexander Trotter, and N. S. Wells—equal; 9. A. B. Black, D. Heron, E. B. Jamie-

son, A. A. Martin, J. B. Primmer, E. D. Simpson, and A. M. Wood—equal; 16. G. S. Carmichael; 17. J. G. M'Dougall and N. Patterson—equal; 19. H. Bishop, S. A. Ballantyne, W. Girdwood, G. R. Turner, J. M. A. Macmillan, H. M. Speirs, William Wallace, and G. Duncan-Whyte—equal.

SECOND-CLASS CERTIFICATES.—27. G. B. Butt, O. C. Bradley, John Craig, F. K. Kerr, J. C. Kennedy, J. Morrison, H. C. Nixon, C. B. M'Conaghy, R. M'Clelland, W. E. M'Farlane, J. S. Rintoul, R. A. Ross, and A. D. Spence—equal; 40. A. J. Baird, J. M. L. Brown, E. Ewart, D. Fitzwilliams, L. D. Hood, H. D. Shepherd, and G. B. Speirs—equal; 47. Henry Buist, G. F. Buist, A. Brydon, M. Campbell, W. M'Dougall, A. Frew, H. J. Hoile, F. C. Matthew, D. S. M'Knight, John Pender, and Noel N. Wade—equal; 58. T. H. W. Alexander, L. P. Brassey, R. S. Ellis, B. G. Forman, J. L. Green, P. J. Hay, A. A. Little, R. S. Leach, G. H. Lewis, J. G. Mackenna, C. Balfour Paul, T. S. Shepherd, Matthew A. Swan, P. Weatherbe, and A. J. Williamson—equal; 73. A. A. Ayton, N. Glegg, H. Mason, J. R. Prytherch, J. A. Smail, and J. F. Selkirk—equal; 79. B. K. Chattergie, H. L. Clift, S. J. D. Fraser, T. Fukuda, G. C. Ghose, T. Graham, L. Hood, R. Hamilton, J. Jamieson, J. Miskelly, J. H. M'Kee, D. S. M'Knight, J. H. C. Orr, J. C. Parker, Owen L. Rhys, R. A. Savage, W. S. Scott, William Sloss, and J. H. Wrightson—equal.

GEORGE A. BERRY, M.B., *Lecturer.*

#### DISEASES OF THE LARYNX, EAR, AND NOSE.

FIRST-CLASS HONOURS.—1. Garnet Wright (*Prizeman*); 2. H. Harris; 3. E. A. Walker.

SECOND-CLASS HONOURS.—4. H. J. Hoile.

P. M'BRIDE, M.D., *Lecturer.*

#### TROPICAL DISEASES.

FIRST-CLASS HONOURS.—1. John C. Mitchell, D.Sc., Edinburgh; 2. James Alexander Mitchell, M.B., Edinburgh (*Medallists*); 3. Henry L. S. D. Belasco, M.B., Guiana; 4. James S. Geikie, Edinburgh.

SECOND-CLASS HONOURS.—5. Joseph C. Hastings, M.B., Edinburgh; 6. T. T. A. Dilain, Trinidad; 7. Horace G. Lewer, L.R.C.P. and S. Edin., England.

ANDREW DAVIDSON, M.D., *Lecturer.*

#### DISEASES OF THE SKIN.

FIRST-CLASS HONOURS.—1. Charles Fraser (*Prizeman*); 2. G. Scott Carmichael and Robert Affleck—equal.

SECOND-CLASS HONOURS.—4. Thomas H. W. Alexander; 5. James C. Parker.

W. ALLAN JAMIESON, M.D., *Lecturer.*



**WINTER SESSION, 1899-1900.**

**CHEMISTRY.**

ROBERT WILSON MEMORIAL PRIZE.—George A. Carse, Edinburgh.  
 FIRST-CLASS HONOURS.—1. Archibald Milne, Edinburgh; 2. George A. Carse, Edinburgh; 3. William A. K. Christie; George S. Duncan, Leith; and Andrew Shaw Ogilvie—equal; 6. Arthur C. Strain, Blairgowrie (*Medallists*); 7. W. M. Munby; 8. William Bruce, Laurencekirk; 9. James Craw, Berwickshire, and Donald S. Murray—equal; 11. Alexander Gray, Lochee, and Robert Howden, Leith—equal; 13. J. M. R. Flament, Trinidad, and H. M. Thompson, Yorkshire—equal; 15. David Brown, Jedburgh; 16. Isaac Ash, Perth, and K. U. A. Inniss, Trinidad—equal; 18. George W. Jones, Dundee; 19. E. Henderson, and Douglas G. Reid, Wigtown—equal; 21. John J. H. Ferguson, Cardiff; D. H. C. MacArthur, Wakefield; John P. M'Gowan; Charles Duncan O'Neal; Barbadoes; and George Philip, Ross-shire—equal.

SECOND-CLASS HONOURS.—26. Hope M. Gillespie, Kirkcubrecht, and Robert H. Watt, Edinburgh—equal; 28. Charles D. Lochrane, and W. M'Conaghy—equal; 30. Arnold S. L. Biggart, A. B. Lorimer, and H. R. Macintyre—equal; 33. William James Fraser, Ceylon, and Alexander Richardson, Edinburgh—equal; 35. Matthew M. Baird, Port-Glasgow; Charles Innes, M. I. Ali Khan, Thomas S. Lindsay, Scotland; and Andrew John Ritch, Orkney—equal; 40. G. P. Joy; Faiz Jung, Hyderabad; J. W. Romanes, and Hugh A. Stewart, Blair Atholl—equal; 44. Richard A. Chapman, Rhyl, and George A. Russell, Dundee—equal; 46. James M. Graham, Edinburgh; A. J. Ross; and F. L. de Verteuil—equal; 49. Archibald Oliver, Edinburgh; 50. J. W. H. Babington, Londonderry; Frank Baillie, Ireland; D. W. Boswell, Norfolk; T. F. Campbell, Lancashire; R. G. Russel; and Charles S. Ryles Dollar—equal; 56. William Purvis Beattie, A. R. Berrie, F. T. Bowerbank, Penrith; James A. Gunn; Philip A. Harry, Jamaica; and Labbhu Ram, India—equal; 62. J. Robinson, Manchester; 63. R. Balfour Barnetson, Edinburgh; William Jarvis, Edinburgh; J. H. H. Joubert, Cape Colony; David P. Marais; and W. A. Wilson-Smith—equal; 68. James B. M'Donald; 69. Thomas F. Cowie, Cape Colony; W. W. Greer, Queensland; and W. J. Patterson—equal; 72. James M. Barkley, R. J. Mackessack, and Robert Moyes—equal; 75. James Chalmers, Thomas B. Mouat, A. Pampellone, Alexander L. Pearson, and D. P. D. Wilkie—equal; 89. John M. Beyers, Cape Colony; John Jardine, Penicuik; and Samuel A. M'Clintock, Londonderry—equal; 83. Mohamed Ashruff; T. E. Coulson, Lincolnshire; Thomas H. Easton, Edinburgh; and Emile Hamel Smith—equal; 87. J. Robertson Hall, Northumberland; 88. Edward J. Elliot,



Roxburghshire ; John Grieve ; Peter M'Ewan, Perthshire ; John Saffley ; and Archibald Todrick, Haddington—equal ; 93. J. B. Mears ; and George Stewart, Lasswade—equal ; 93. D. Irving Anderson, C. T. Ayana, James Bauchope, Edinburgh ; Pollok Donald, Leith ; Robert Donaldson, Musselburgh ; Graham Thomson Drummond, E. J. Griffiths, G. S. Landon, Charles P. M'Donald, and J. Morris, North Wales—equal.

W. S. M. Brown, J. B. Lockerbie, and R. A. L. Van Someren were unavoidably absent from one examination.

### PRACTICAL CHEMISTRY.

FIRST-CLASS HONOURS.—1. John Kirk, Edinburgh ; 2. E. Henderson, Ayr, and Faiz Jung, Hyderabad—equal ; 4. David Brown ; 5. Archibald Milne, Edinburgh (*Medallists*) ; 6. A. C. Strain, Blairgowrie ; 7. Andrew Shaw Ogilvie, Broughty Ferry ; 8. George W. Jones, Dundee ; 9. Isaac Ash, Perth ; 10. James Craw, Berwickshire ; J. A. Gunn, Kirkwall ; and Alexander Richardson, Edinburgh—equal ; 13. John P. M'Gowan ; 14. J. M. R. Flament, Trinidad ; 15. Charles S. Ryles ; H. M. Thompson, Yorkshire ; and Robert H. Watt, Edinburgh—equal ; 18. J. W. H. Babington, Londonderry ; K. U. A. Inniss, Trinidad ; and Donald S. Murray—equal ; 21. George A. Russell ; 22. R. Balfour Barnetson, Edinburgh ; W. M. Munby ; and Douglas G. Reid, Wigtown—equal ; 25. T. F. Campbell, Lancashire ; Philip A. Harry ; and A. J. Ross, Edinburgh—equal ; 28. Francis Baillie, Ireland ; William P. Beattie ; and Hugh R. Macintyre—equal ; 31. James B. Lockerbie ; R. J. Mackessack, Forres ; and Archibald Oliver, Edinburgh—equal ; 34. J. Morris, N. Wales ; 35. W. W. Greer, Queensland ; David P. Marais, South Africa ; and W. J. Patterson—equal ; 38. D. H. C. MacArthur, Wakefield.

SECOND-CLASS HONOURS.—39. Richard A. Chapman ; 40. James H. Balleny ; M. L. Ali Khan, Hyderabad ; and Patrick Steele—equal ; 43. D. Irving Anderson ; A. B. Lorimer ; Charles Duncan O'Neil, Barbadoes ; and Hugh Angus Stewart, Blair Atholl—equal ; 47. Murray Cohen, Canada ; William Jarvis ; and Robert Moyes—equal ; 50. John Alexander ; John Grieve ; G. P. Joy ; and R. C. Marshall, Crieff—equal ; 54. Robert Donaldson, Musselburgh ; James B. M'Donald ; Labbhu Ram ; R. G. Russel ; and John Walker—equal ; 59. Ernest A. Aylward ; Thomas H. Easton, Edinburgh ; John Jardine, Penicuik ; and D. P. D. Wilkie—equal ; 63. Alexander R. Berrie ; T. E. Coulson, Lincolnshire ; and Hope M. Gillespie, Kirkgunzeon—equal ; 66. Thomas B. Mouat ; 67. George Banks, and Charles Johnston Smith—equal ; 69. Fred. T. Bowerbank, Penrith ; Arthur J. Lewis ; William M'Rae, Edinburgh ; A. Pampellonne ; and R. W. L. Wallace—equal ; 74. M. Ashruff ; Arnold S. L. Biggart ; E. J. Elliot ; William

## 476 *Faculty of Medicine—Class Prize and Honours Lists.*

Grant, Arbroath; Charles Innes; Samuel Alexander M'Clintock; and Alexander W. Neill—equal; 81. W. F. Archibald; Murdo Mackinnon; Alfred Malseed; Thomas Walsh; and J. Douglas Wells—equal; 86. James M. Barkley; James A. Glover, Dumfries; and Andrew John Ritch—equal; 89. D. M. C. Church; 90. John M. Beyers, Cape Colony; Fred. R. Sinton; and A. J. Shepherd-Walwyn—equal; 93. Douglas Bell; W. A. Wilson-Smith; and W. Bruce Wishart, Edinburgh—equal; 96. George S. Landon; A. P. G. Lorimer; James B. Stewart; and A. N. J. Vizarat—equal; 100. James Bauchope, Edinburgh; Alan G. Cook; Edward A. Elder, Edinburgh; Lindsay S. Milne; and Archibald Todrick—equal; 105. J. H. H. Joubert and Thomas Wright—equal; 107. George G. Bartholomew; James Scott; and Robert M. Wishart—equal; 110. Joseph Robinson; 111. William J. Fraser; O. M. Gericke; E. J. Griffiths; Alexander W. Hogg; and Bernard Pickering—equal.

J. L. Pearce, John Saffley, and R. A. L. Van Someren were unavoidably absent from one examination.

ALEX. CRUM BROWN, M.D., *Professor.*

### ELEMENTARY ZOOLOGY.

FIRST-CLASS HONOURS.—1. James Lochhead; 2. D. W. Wilton and F. R. Sinton (*Medallists*); 4. D. G. Reid and J. W. H. Babington—equal.

SECOND-CLASS HONOURS.—6. T. H. Easton; 7. Labbhu Ram and D. P. Marais—equal; 9. P. A. Harry and A. O. P. Reynolds—equal; 11. M. Cohen; 12. A. Oliver; 13. R. W. Johnstone; 14. W. M'Conaghy; 15. S. A. M'Clintock, A. E. C. Rees, and Lindsay S. Milne.

### PRACTICAL ZOOLOGY.

FIRST-CLASS HONOURS.—1. J. W. H. Babington; 2. T. H. Easton (*Medallists*); 3. H. P. Milligan and S. W. Smith—equal.

SECOND-CLASS HONOURS.—5. F. R. Sinton; 6. D. L. Anderson and F. T. Bowerbank—equal; 8. V. T. Carruthers and C. G. Edmondston—equal; 9. C. T. Ayana, W. P. Beattie, M. Cohen, W. H. Forsyth, J. Lochhead, L. S. Milne, Labbhu Ram, H. S. Reid, and D. P. D. Wilkie—equal.

J. C. EWART, M.D., *Professor.*

### PHYSICS.

FIRST-CLASS HONOURS.—1. A. C. Strain, Scotland; 2. J. Craw, Berwickshire; 3. H. A. Stewart, Blair Atholl (*Medallist*); 4. Margaret H. Robertson, Tobermory; 5. D. Brown, Scotland; 6. J. B. Mears, Tynemouth; 7. T. E. Coulson, Sleaford, Lincolnshire, and D. H. C. MacArthur, Wakefield—equal; 9. Eleanor A. Gorrie, Dalkeith.

SECOND-CLASS HONOURS.—10. J. Crawford, Ceylon; 11. G. S. London, Brazil, and F. L. de Verteuil, Martinique—equal; 13. J. M. Graham, Scotland; 14. Mildred M. Cathels, Kirkton, Hawick; H. R. Macintyre, China; J. W. Marston, Lowell, Mass, U.S.A.; and W. A. Wilson-Smith, Scotland—equal; 18. J. J. H. Ferguson, Newburgh-on-Tay; 19. R. H. Watt, Scotland; 20. C. D. O'Neal, Barbadoes; W.I.; 21. R. B. Barnetson, Scotland; 22. S. F. Jung, Hyderabad, and J. Kirk, Edinburgh—equal; 24. C. S. Ryles, India; 25. O. St John Moses, Calcutta; 26. J. Morris, North Wales; 27. L. Gibson, Musselburgh; 28. W. J. E. Bell, Cove, Dumbartonshire, and J. M. R. Flament, Trinidad—equal; 30. W. J. Fraser, Ceylon; Elspeth M. Macmillan, Edinburgh; R. A. L. van Someren, Penang; and J. R. Simson, Scotland—equal; 34. J. H. Hume, Jedburgh; D. I. Anderson, England; F. T. Bowerbank, England; and W. Grant, Arbroath—equal; 38. A. Simpson, Scotland.

Miss Florence M. S. Price Treorchy, South Wales, obtained 60 per cent. in the First Examination, but was unable, through illness, to attend the Second Examination.

C. G. KNOTT, D.Sc., *Lecturer.*

#### SENIOR PRACTICAL ANATOMY.

FIRST-CLASS HONOURS.—1. D. M. Callender, M.A., Edinburgh; John Dunlop, Lanark; D. R. M'Gregor, Dunfermline; and A. B. Ross, M.A., Ross-shire—equal (*Medallists*); 5. Archibald Brownlie, Fauldhouse; T. F. Cavanagh, Ireland; Sidney Gilford, Surrey; T. B. Hamilton, Melrose; Henry Herd, M.A., Leith; Paul Matthews, Carlisle; C. J. Shaw, Perthshire; and B. P. Watson, Fife—equal; 13. C. M. Campbell, Edinburgh; R. G. Gordon, Chili; A. W. M. Harvey, Nova Scotia; Mathew Holmes, New Zealand; William Lillico, Ireland; S. A. Moore, New Zealand; H. H. Robarts, London; and A. M'G. Sharp, Galashiels—equal; 21. D. P. Goil, India; R. P. M'Neil, Stranraer; and J. S. Sewell, Northumberland—equal; 24. C. H. Bäsensberg, Cape Town; G. B. Brand, Bathgate; H. J. Dunbar, Dunfermline; Wm. Hume, Australia; W. S. Laidlaw, Hawick; and W. R. Reid, Hampshire—equal; 30. A. K. Baxter, Leith; J. W. Cathles, Edinburgh; Shaik Dawood, India; Geo. Henderson, M.A., Ayr; J. K. Matheson, Dingwall; E. L. Meynell, India; and Charles Nelson, Edinburgh—equal; 37. B. Blacklock, Glasgow; S. A. Ellerbek, Denmark; Andrew Grant, Ross-shire; C. H. Houghton, Ireland; James Kirkwood, Edinburgh; R. C. Low, Edinburgh; W. E. Marshall, Perth; and Philip Vickers, Jamaica—equal; 45. W. F. Macdonald, Inverness; and T. H. Osler, Cape Colony—equal; 47. E. A. Braine, Montrose; R. Dods Brown, Edinburgh; and J. F. Duncan, New Zealand—equal; 50. A. N. Fell, New Zealand; A. M. Gloag, Edinburgh; Philip Hallam,

## 478 *Faculty of Medicine—Class Prize and Honours Lists.*

Sheffield; J. M. Johnston, Ayrshire; A. W. B. Loudin, Roslin; Wm. Newlands, New Zealand; and S. A. K. Wilson, U.S.A.—equal; 57. R. G. Archibald, India; A. M. Caverhill, Jedburgh; E. J. Morton, Edinburgh; S. W. M'Lean, Ireland; Maurice Sinclair, Burmah; J. M. Taylor, Edinburgh; and Geo. Wight, Edinburgh—equal; 64. John Hunter, Musselburgh; A. M. Moll. Orange Free State; John Politachi, Manchester; J. A. Raubenheimer, Cape Colony; G. C. Trotter, Edinburgh; and E. E. Wood, Ireland—equal; 70. Maurice Davies, Wales; and W. Y. Woodburn, Australia—equal; 72. Harold Kerr, London, and W. F. Smeall, Jedburgh—equal; 74. A. H. Rahagliati, Bradford; A. B. dos Remedios, Goa; and Wm. Young, Airdrie—equal; 77; W. P. Chrystal, New Zealand; 78. Thomas Gowans, South Shields; 79. J. F. de Villiers, Cape Colony.

SECOND-CLASS HONOURS.—80. A. F. R. Conder, Edinburgh; 1. W. L. Alston.

L. H. J. Bell, Edinburgh; H. L. Cumming, Grangemouth; J. S. Elliott, New Zealand; C. F. Noble, Inverness; and R. E. Russell, Cape Colony, also obtained marks, but were unavoidably absent from one of the five examinations.

## JUNIOR PRACTICAL ANATOMY.

FIRST-CLASS HONOURS.—1. H. N. Fletcher, Norfolk; Ephraim Henderson, Ayr; and A. A. Hall, M.A., Leith—equal (*Medal-lists*); 4. D. E. Derry, Surrey; J. M. Kirkness, Edinburgh; Wm. C. Morton, M.A., Trinidad; and W. Sibbald-Robertson, Berwickshire—equal; 8. G. S. Clark, Edinburgh; and Wm. Mackenzie, Elgin—equal; 10. J. M. Dewar, Kirriemuir; Alex. Gray, Perthshire; C. R. Gibson, M.A., Carlisle; J. W. Keay, Perthshire; N. D. Mackay, Aberfeldy; G. H. Skinner, Forfarshire; N. T. Thomson, India; and Robert Veitch, Edinburgh—equal; 18. James Davidson, Berwick-on-Tweed; 11. L. Munro, Lincolnshire; Ernest Muir, Banffshire; and Thomas Peebles, Edinburgh equal; 22. Angus Buchanan, Argyleshire; N. C. Forsyth, Tobermory—equal; 24. John Fortune, Edinburgh; P. W. Mason, New Zealand; and A. C. T. Woodward, Bewdley—equal; 27. Daniel Allison, Lanark, and Wm. Sanderson, Tranent—equal; 29. C. R. P. Mitchell, Glasgow, and Nestorius Marcus, Persia—equal; 31. J. M. Levett, Nottingham, and J. B. M'Neill, Edinburgh—equal; 33. F. S. Brennan, Ireland; A. S. Gordon, Bathgate; and G. S. Mackay, Aberfeldy—equal; 36. G. W. Armstrong; Samuel Burns, Ayr; and R. W. Craig, Dalkeith—equal; 39. Wm. MacLaren, Arbroath, and F. G. Saleeby, Palestine—equal; 41. John Allan, Partick; H. S. Coghill, Caithness; and Louis Turiansky, Edinburgh—equal; 44. M. Ashkenazie, Roumania.

## LECTURES ON ANATOMY.

### SENIOR STUDENTS.

FIRST-CLASS HONOURS.—1. Paul Mathews, Carlisle (*Medallist*).

SECOND-CLASS HONOURS.—2. B. Blacklock, Glasgow; 3. J. M. Dewar, Kirriemuir; 4. Labbhu Ram, India; 5. Philip Vickers, Jamaica; 6. Mathew Holmes, New Zealand; 7. Charles M. Begg, New Zealand; 8. A. B. dos Remedios, Goa.

### STUDENTS OF THE FIRST YEAR.

FIRST-CLASS HONOURS.—1. Ephraim Henderson, Ayr; 2. James Craw, Berwickshire; 3. R. S. Enever-Todd, M.A., Musselburgh; 4. Robert Donaldson, M.A., Musselburgh (*Medallists*); 5. James Lochhead, Earlston; 6. M. L. Cohen, B.A., Canada, and J. J. H. Ferguson, Cardiff—equal; 8. T. E. Coulson, Lincolnshire; J. A. Glover, Dumfries; and A. C. Strain, Perthshire—equal; 11. H. R. Macintyre, China; 12. David Brown, Jedburgh; K. N. A. Inniss, Trinidad; John Saffley, Dumfriesshire, and W. B. Wishart, Edinburgh—equal; 16. P. A. Harry, Jamaica; D. P. Marais, Cape Colony; J. E. Scott, Northumberland; H. A. Stewart, Blair Athole; and W. A. Wilson Smith, Berwickshire—equal; 21. R. B. Barnetson, Edinburgh; H. M. Gillespie, Kirkgunzeon; J. M. Graham, Edinburgh; and A. O. P. Reynolds, Surrey—equal.

SECOND-CLASS HONOURS.—R. J. Mackessack, M. A., Morayshire; J. A. Pottinger, Orkney; C. S. Ryles, India; and Louis Turiansky, Edinburgh—equal; 29. C. S. Crichton, Arbroath, and G. D. Mathewson, Dunfermline—equal; 31. Patrick Steele, Edinburgh; 32. A. G. Coullie, Pencaitland; and A. W. Neill, Edinburgh—equal; 34. G. S. Landon, England; 35. A. G. Glass, Morayshire, and S. A. M'Clintock, Londonderry—equal; 37. A. R. Berrie, India; W. J. Fraser, Ceylon; R. W. D. Hewsen, Stafford; C. D. O'Neal, Barbadoes, and C. J. Smith, Edinburgh—equal; 42. D. W. Boswell, Norwich; R. A. Chapman, Liverpool; J. M. R. Flament, Trinidad; M. M. Mamourian, Smyrna; D. S. Murray, Edinburgh; and R. W. L. Wallace, Aberdeenshire—equal; 48. L. S. Milne, Montrose; L. H. Skene, Stirlingshire; and D. P. D. Wilkie, Forfarshire—equal; 51. M. Ashkenazie, Roumania; 52. T. H. Easton, Wigtownshire, and Douglas Wells, Chelmsford—equal; 54. W. P. Beattie, Glasgow; John Miller, Edinburgh; and H. M. Thompson, Yorkshire—equal; 57. C. L. Eyles, India; John Findlay, New Zealand; G. H. L. Fitzwilliams, Wales; William Grant, Forfarshire; R. L. Henderson, Queensland; and A. Pampellonne, Trinidad—equal; 63. W. W. Greer, Queensland; James Mackenzie, Laggan; and G. H. Winch, Yorkshire—equal; 66. R. J. Irving, Carlisle; G. P. Joy, London; and Archd. Oliver, Edinburgh—equal; 69. A.



S. Mactavish, Kelso ; 70. J. H. H. Joubert, Cape Colony ; 71. G. S. Clark, Edinburgh ; 72. Francis Baillie, Ireland ; W. S. Murdoch-Brown, Edinburgh ; G. T. Drummond, Edinburgh ; O. M. Gericke, South Africa ; Wm. Godfrey, Mauritius ; W. L. Locke, Selkirk ; W. J. Paterson, Ireland ; and J. G. B. Shand, Trinity—equal ; 80. L. G. Bruce, Edinburgh ; C. G. Edmonston, Mid-Lothian ; A. W. Hogg, New Zealand ; John Jardine, Penicuik ; and J. S. Peebles, Dundee—equal ; 85. A. S. L. Biggart, Durham ; John Morris, North Wales ; G. Ormrod, Workington ; Thos. Robertson, Berwickshire ; and James Scott, Leith—equal ; 90. J. M. Bevers, Cape Colony ; T. F. Campbell, Lancashire ; John Grieve, Edinburgh ; W. M. Munby, North Shields ; Henry MacCormac, Ireland ; James Mackenzie, Inverness ; L. C. Robinson, Valetta ; E. H. Smith, Trinidad ; and F. L. de Verteuil, Martinique — equal ; 99. Douglas Bell, Barrow-in-Furness ; A. D. M'Callum, Cumberland ; and R. M. Wishart, Leith—equal.

R. W. Johnston, Edinburgh, obtained First-Class marks in two examinations, but owing to illness he was unavoidably absent from the third examination.

The SENIOR "JOHN AITKEN CARLYLE" BURSARY in *Anatomy and Physiology* was awarded to J. M. Dewar, Kirriemuir.

The JUNIOR "JOHN AITKEN CARLYLE" BURSARY in *Anatomy and Chemistry* was awarded to James Craw, Berwickshire.

The MACKENZIE BURSARIES FOR PROFICIENCY IN DISSECTING were awarded to Daniel Allison, Lanark ; and Wm. C. Morton, Trinidad ; John Lovett, Nottingham ; and Wm. MacLaren, Arbroath.

The following gentlemen acted as Prosectors to the Class :—

R. G. W. Adams, New Zealand.

C. H. Bösenberg, Cape Town.

R. E. Russell, Cape Colony.

W. Y. Woodburn, Australia.

DAVID HEPBURN, M.D., *Lecturer.*

WM. TURNER, Kt., M.B., *Professor.*

## PHYSIOLOGY.

### SENIOR DIVISION.

FIRST-CLASS HONOURS.—1. B. P. Watson, Fifeshire ; 2. A. B. Ross, M.A., Ross-shire ; 3. S. Gilford, Surrey (*Medallists*) ; 4. P. Mathews, Carlisle ; 5. H. Herd, Leith ; 6. H. H. Robarts and S. A. Ellerbek, Denmark—equal ; 8. T. B. Hamilton, Melrose ; 9. F. Cavanagh, Ireland, and H. Overy, Kent—equal ; 11. F. I. Dawson, India, and R. C. Low, Edinburgh—equal ; 13. S. A. Moore, New Zealand ; 14. C. H. Bösenberg, Cape Colony ; W. Lilico, Ireland ; and R. E. Russell, Cape Colony—equal ; 17. T. W. E. Ross, London, and W. E. Marshall, Perth—equal ; 19. B.



Blacklock, Scotland; T. M. Cuthbert, British Honduras; and J. Dommissé, Cape Colony—equal.

SECOND-CLASS HONOURS.—22. J. Weir, Ireland; 23. S. C. Ellison, Ireland; J. P. Grant, Broughty Ferry; and J. Kirkwood, Edinburgh—equal; 26. D. J. Hamman, Cape Colony; A. W. M. Harvey, Nova Scotia; D. R. Macgregor, B.Sc., Dunfermline; and C. J. Shaw, Perthshire—equal; 30. D. M. Callender, M.A., Edinburgh; 31. J. H. Connolly, Ireland; J. Dunlop, Lanark; and J. H. Montgomery, Ireland—equal; 34. D. P. Goll, India, and S. W. Maclean, Ireland—equal; 36. G. B. Brand, Bathgate, and J. S. Sewell, Northumberland—equal; 38. D. N. W. Murray, New Zealand; 39. R. C. Irvine, Tasmania; W. F. Macdonald, Scotland; T. H. Osler, Cape Colony; W. H. Swaffield, Edinburgh; and S. A. K. Wilson, U.S.A.—equal; 44. H. J. Dunbar, Dunfermline, and R. Morison, India—equal; 46. R. Dods Brown, Edinburgh; R. P. McNeill, Stranraer; and J. K. Mathieson, Scotland—equal; 49. J. Fairbairn, British Guiana; A. N. Fell, New Zealand; and H. Harding, Liverpool—equal; 52. W. Goodchild, Westmoreland; 53. A. K. Baxter, Leith; W. C. Burton, Guernsey; D. Lorimer, Edinburgh; E. L. Meynell, India; and J. M. Smith, Dundee—equal; 58. J. F. Duncan, New Zealand; A. Gillespie, St Andrews; M. Holmes, New Zealand; H. Kerr, London; A. F. H. Rabagliati, Yorkshire; and W. F. Smeall, Jedburgh—equal; 64. J. S. Elliot, New Zealand; 65. E. E. Cassady, Dundee; J. W. Cathles, Scotland; A. Grant, Ross-shire; C. H. Houghton, Scotland; H. Kramer, Cape Colony; and A. E. Nalborough, Germany—equal; 71. A. Brownlie, Fauldhouse; A. M. Caverhill, Jedburgh; and G. Wight, Edinburgh—equal; 74. Lewis Anderson, Jamaica; W. Hume, Australia; and P. Vickers, Jamaica—equal; 77. R. G. Gordon, Scotland; J. Haegert, India; and E. E. Wood, Cape Colony—equal; 80. H. Beveridge, Edinburgh, and R. D. Kidd, Natal—equal; 82. C. Nelson, Edinburgh, and W. R. Reid, Hampshire—equal; 84. J. G. Briggs, India; M. Davies, Wales; A. M. Gloag, Scotland; Abraham Leach, Lancashire; J. M. Marshall, Kirkcudbright; and R. J. Mayberry, Ireland—equal.

#### JUNIOR DIVISION.

FIRST-CLASS HONOURS.—1. C. R. Gibson, Gretna; 2. A. A. Hall, Leith; 3. J. M. Kirkness, Edinburgh; 4. H. S. Davidson, Melrose (*Medallists*); 5. W. Newlands, New Zealand; 6. W. Mackenzie, Elgin; 7. H. Caird, Musselburgh, and T. Nicol, Scotland—equal; 9. D. D. Paton, Scotland; 10. J. A. Anderson, Edinburgh; W. C. Morton, Edinburgh; T. Peebles, Edinburgh; and E. A. Turpin, Tobago—equal; 14. R. B. Calwell, Ireland; G. Cunningham, Scotland; G. H. Skinner, Scotland; and John Tait, Orkney—equal; 18. J. Girdwood, Ayr; E. Muir, Scotland; and L. A. H. Lack, Trinidad—equal.

## 482 *Faculty of Medicine—Class Prize and Honours Lists.*

SECOND-CLASS HONOURS.—22. Shaik Dawood, India ; 22. C. M. Begg, New Zealand ; and P. W. Mason, New Zealand—equal ; 24. J. M. Dewar, Kirriemuir ; 25. J. A. Roux, Cape Colony, and E. J. Taylor, Scotland—equal ; 27. J. H. Smith, Edinburgh ; 28. J. A. Pottinger, Orkney ; 29. J. Fortune, Scotland, and A. Gray, Perthshire—equal ; 31. D. Allison, Scotland ; R. W. Johnstone, Scotland ; and W. Sanderson, Tranent—equal ; 34. G. J. Farie, Bridge of Allan ; C. R. F. Hartley, England ; J. R. M'Gregor, Dunfermline ; D. J. Scott, Montrose ; H. Spiers, Scotland ; A. C. T. Woodward, Arley Castle—equal ; 40. F. H. Gibson, England ; N. D. Mackay, Aberfeldy ; and G. W. Young, London—equal ; 43. G. S. Husband, Jamaica, and J. M. Lovett, England—equal ; 45. A. S. Millard, Nottingham ; L. Turiansky, Scotland ; and G. J. Wentzel, Cape Colony—equal ; 48. G. W. Armstrong, Wales ; D. E. Derry, England ; J. D. Giles, Edinburgh ; T. Gowans, and W. M'Laren, Arbroath—equal ; 53. J. E. Scott, England ; 54. J. Allan, Partick ; C. S. Crichton, Arbroath ; J. H. Kay, Scotland ; and W. S. Robertson, Scotland—equal ; 58. H. L. Munro, Lincolnshire ; N. C. Rutherford, Shipley ; Wm. Selby, Wigtownshire ; and R. Veitch, Scotland—equal ; 62. C. H. Craig, Scotland ; C. L. Eyles, India ; A. F. Hughes, Grenada ; J. B. M'Neill, Edinburgh ; and J. M. Macrae, Scotland—equal ; 67. F. T. C. Linton, Edinburgh ; W. H. Nutt, Beeston ; and R. M. Walker, Stirling—equal ; 70. S. Burns, Ayr ; H. N. Fletcher, England ; J. C. Keir, England ; and W. D. Wright, London—equal ; 74. T. C. Blackwell, Harrow-weald ; T. P. Caverhill, Berwick-on-Tweed ; W. P. Chrystall, New Zealand ; F. D. Crosthwaite, Edinburgh ; J. Findlay, New Zealand ; R. L. Henderson, Queensland ; G. S. Mackay, Aberfeldy ; S. W. Smith, Dundee ; and T. T. Thomson, India—equal.

### EXPERIMENTAL PHYSIOLOGY.

FIRST-CLASS HONOURS.—1. Sidney Gilford, Surrey ; 2. T. B. Hamilton, Melrose ; and E. E. Wood, Ireland—equal (*Medallists*) ; 4. J. W. Cathles, Edinburgh ; and B. P. Watson, Scotland—equal ; 6. W. A. Cowan, Edinburgh ; W. Newlands, New Zealand ; A. B. Ross, Ross-shire ; and John Tait, Orkney—equal ; 11. H. H. Robarts, England ; and W. Sanderson, Tranent—equal ; 13. Daniel Allison, Scotland ; and F. I. Dawson, India—equal ; 15. B. Blacklock, Scotland ; G. B. Brand, Bathgate ; George Cunningham, Scotland ; W. E. Marshall, Perth ; and P. Matthews, Carlisle—equal ; 20. H. J. Dunbar, Dunfermline ; J. K. Matheson, Dingwall ; and W. Readman, England—equal ; 23. C. J. Shaw, Perthshire, and R. Veitch, Scotland—equal ; 25. A. Brownlie, Fauldhouse ; J. S. Elliot, New Zealand ; A. N. Fell, New Zealand ; and E. L. Meynell, India—equal ; 29. J. M. Dewar, Kirriemuir, and W. Mackenzie, Elgin—equal ; 31. R. W. Craig, Scotland ; and C. L. Eyles, India—equal ; 33. H. Beveridge,

Scotland ; D. E. Derry, England ; A. W. M. Harvey, Nova Scotia ; H. Kerr, London ; D. Lorimer, Edinburgh ; J. H. Montgomery, Ireland ; S. A. Moore, New Zealand ; W. C. Morton, Trinidad ; W. S. Robertson, Berwickshire ; D. J. Scott, Montrose ; and G. J. Wentzell, Cape Colony—equal ; 44. Jas. Girdwood, Ayr ; Jas. Kirkwood, Edinburgh ; and A. E. C. Rees, Australia—equal ; 47. John Dunlop, Lanark ; C. J. Farie, Bridge of Allan ; and W. Lilico, Ireland—equal ; 50. R. T. G. Aickin, New Zealand ; 51. D. M. Callender, M.A., Edinburgh ; Andrew Grant, Scotland ; Albert Leach, England ; and W. M. Selby, Scotland—equal ; 55. W. A. Brown, Scotland ; H. Fletcher, England ; A. S. Gordon, Scotland ; George Henderson, Scotland ; J. Hunter, Scotland ; and H. A. Knight, Dublin—equal.

SECOND-CLASS HONOURS.—61. A. K. Baxter, Leith ; T. Nicol, Scotland ; J. A. Raubenheimer, Cape Colony ; and H. M. Stumbles, England—equal ; 65. W. H. Nutt, Beeston ; 66. A. N. Fraser, Falkirk ; W. Goodchild, England ; T. Peebles, Edinburgh ; T. T. Thomson, India ; and G. C. Trotter, Scotland—equal ; 71. S. Cunliffe, R. C. Irvine, Tasmania ; J. B. Mason, Scotland ; A. J. Rowan, Cape Colony ; and R. E. Russell, Cape Colony—equal ; 76. J. Arthur, England ; C. H. Bösenberg, Cape Town ; and D. D. Paton, Scotland—equal ; 79. J. A. Duggan, Ireland ; J. F. Duncan, New Zealand ; F. E. Larkins, Kingston-on-Thames ; and D. N. W. Murray, New Zealand—equal ; 83. Jas. Davidson, Berwick-on-Tweed ; J. Dommissie, Cape Colony ; R. C. Low, Scotland ; C. H. Müller, So. Africa ; T. H. Osler, Cape Colony ; and J. J. Redhead, Venezuela—equal ; 89. A. E. Hodgson, England, and H. Overy, England—equal ; 91. P. W. Mason, New Zealand ; E. C. Prichard, Glenmorgan ; and E. J. Taylor, Scotland—equal ; 94. J. Fairbairn, British Guiana, and J. S. MacDonald, Cape Colony—equal ; 96. T. Johnstone, Scotland, and A. C. T. Woodward, Arley Castle—equal ; 98. H. W. Gush, Brighton ; 99. A. Gillespie, St Andrews, and A. B. dos Remedios, Goa—equal ; 101. R. P. M'Neill, Stranraer, and J. A. Pottinger, Orkney—equal ; 103. R. W. Johnstone, Scotland ; M. Holmes, Scotland ; F. T. C. Linton, Edinburgh ; and J. M. Smith, Scotland—equal ; 107. J. D. Giles, Edinburgh, and J. F. de Villiers, Cape Colony—equal ; 109. Elbert Steyn, Cape Colony ; 110. J. P. P. Inglis, Berwick, and G. H. Skinner, Scotland—equal ; 112. H. Caird, Scotland ; R. G. Gordon, Chili ; T. Gowans, A. A. Hall, Leith ; and G. S. Mackay, Scotland—equal ; 117. H. S. Coghill, Scotland, and M. Sinclair, Burmah—equal ; 119. R. D. Kidd, Natal, and C. F. A. Oberländer, Cape Colony—equal ; 121. W. E. Knight, Dublin ; A. W. B. Loudon, Scotland ; A. E. Morton, India ; and W. Young, Airdrie—equal ; 125. G. W. Armstrong, Wales ; Saiduzzafar Khan, India ; and A. O. Hooper, England—equal ; 128. D. P. Goil, India.

### CHEMICAL PHYSIOLOGY.

FIRST-CLASS HONOURS.—1. F. J. Dawson, India, and C. J. Shaw, Perthshire—equal (*Medallists*); 3. J. Henderson Smith, Edinburgh, and B. P. Watson, Fifeshire—equal; 5. R. C. Low, Edinburgh, and G. H. Skinner, Scotland—equal; 7. B. Blacklock, Scotland; G. Cunningham, Scotland; J. Dunlop, Lanark; A. N. Fell, New Zealand; D. J. Hamman, Cape Colony; and R. P. McNeill, Stranraer—equal; 13. J. Allan, Partick; S. Gilford, Surrey; J. K. Matheson, Dingwall; and J. S. Sewell, England—equal; 17. R. D. Brown, Edinburgh; T. B. Hamilton, Melrose; and P. Mathews, Carlisle—equal; 20. W. S. Laidlaw, Scotland, and D. N. W. Murray, New Zealand—equal; 22. D. E. Derry, England; G. J. Farie, Bridge of Allan; and A. B. Ross, Ross-shire—equal; 25. J. M. Dewar, Kirriemuir; T. Peebles, Edinburgh; and W. Sanderson, Tranent—equal; 28. J. F. Duncan, New Zealand, and W. Mackenzie, Elgin—equal; 30. W. C. Burton, Guernsey; H. N. Fletcher, England; D. R. McGregor, Dunfermline; and D. M'Kinnon, Scotland—equal; 34. D. Lorimer, Edinburgh; J. M. Smith, Scotland; and G. W. Young, London—equal; 37. J. Fortune, Scotland, and W. C. Morton, Trinidad—equal; 39. C. L. Eyles, India; J. Girdwood; Ayr; and W. Goodchild, England—equal; 42. Farhat Ali, India, and H. Caird, Scotland—equal; 44. J. Politachi, Manchester; 45. G. W. Armstrong, Wales; 46. Saiduzzafar Khan, India; 47. J. Kirkwood, Edinburgh; E. A. Turpin, Tobago; and E. E. Wood, Ireland—equal; 50. J. Arthur, England, and J. W. M'Ewan, Scotland—equal; 52. R. W. Craig, Scotland, and M. Holmes, New Zealand—equal.

SECOND-CLASS HONOURS.—54. J. Davidson, Berwick-on-Tweed; W. H. Nutt, Beeston; and C. F. A. Oberländer, Cape Colony—equal; 57. A. Hutley, England; D. J. Scott, Montrose; and W. H. Swaffield, India—equal; 60. T. Johnstone, Scotland; 61. E. L. Meynell, India; 62. W. Blackwood, Peebles; 63. A. J. Rowan, Cape Colony; 64. A. Buchanan, Argyleshire; 65. A. M. Moll, Orange Free State; 66. A. S. Gordon, Scotland; 67. D. Allison, Scotland, and J. C. Keir, Wiltshire—equal; 69. A. G. Glass, Scotland, and D. C. Welsh, Scotland—equal; 71. W. E. Knight, Dublin; 72. H. A. Knight, Dublin; 73. E. W. Smyth, Victoria.  
E. A. SCHAFER, LL.D., *Professor.*

### MATERIA MEDICA.

FIRST-CLASS HONOURS.—1. Søren A. Ellerbek, Denmark; 2. Thomas F. Cavanagh, Ireland; 3. Ben. P. Watson, Scotland; 4. Stuart A. Moore, New Zealand (*Medallists*); 5. Samuel C. Ellison, Ireland; Dirk J. Hamman, Cape Colony, and Edward A. Braine, Montrose—equal.

SECOND-CLASS HONOURS.—6. Thos. B. Hamilton, Melrose; 9. John

Dunlop, Lanark ; 10. John P. Grant, Scotland ; 11. Alexander Kidd Baxter, Leith ; Dwarka P. Goil, India ; and Robert C. Low, Scotland—equal ; 14. Henry Herd, M.A., Leith ; Andrew B. Ross, M.A., Ross-shire, and William F. Smeall, Jedburgh—equal ; 17. Sidney Gilford, Surrey, and Charles J. Shaw, Perthshire—equal ; 19. Jan Dommissie, Cape Colony ; 20. A. Nolan Fell, New Zealand ; James Kirkwood, Edinburgh ; and Alexander M. Sharp, M.A., Scotland—equal ; 23. Theodore M. Cuthbert, British Honduras ; William Lilico, Ireland ; William Newlands, New Zealand ; and Thomas W. E. Ross, London—equal ; 27. John Wier, Ireland ; 28. Christian H. Bosenberg, Cape Town, and Henry J. Dunbar, Dunfermline—equal ; 50. James S. Elliott, New Zealand ; Paul Matthews, Carlisle ; John H. Montgomery, Ireland ; and Walter H. Swaffield, England—equal ; 34. James H. Conolly, Ireland ; Thomas H. Osler, Cape Colony ; and J. Scott Sewell, England—equal ; 37. Donald H. W. Murray, New Zealand ; 38. R. Dods Brown, Edinburgh ; Charles M. Campbell, Scotland ; James M. Johnstone, Scotland ; William E. Marshall, Perth ; John K. Matheson, Dingwall ; and Alexander Ross, Nairn—equal ; 44. Archibald Brownlie, Fauldhouse ; Duncan M. Callender, M.A., Edinburgh ; Matthew Holmes, Scotland ; Daniel Mackinnon, Scotland ; Charles F. Noble, Inverness ; and Philip Vickers, Jamaica—equal ; 50. Frank J. Dawson, India ; A. W. Montgomery, Harvey, Nova Scotia ; James C. Loudon, Trinidad ; and Henry H. Robarts, England—equal ; 54. Johannes Roos Bosman, Cape Colony, and George B. Brand, Bathgate—equal ; 56. Andrew Grant, Scotland, and Thomas Johnstone, Scotland—equal ; 58. Howard Harding, England ; William F. MacDonald, Scotland, and James Martin Smith, Scotland—equal ; 61. James F. Duncan, New Zealand ; Wilbert Goodchild, England ; Walter S. Laidlaw, Scotland ; and John G. M'Caughey, Ireland—equal ; 65. Breadalbane Blacklock, Scotland, and Robert D. Kidd, Natal—equal ; 67. Robt. G. Archibald, India ; Ernest E. Cassaday, Dundee ; Richd. C. Irvine, Tasmania ; S. Walter M'Lean, Ireland ; Robert P. M'Neil, Stranraer ; and Henry M. Stumbles, England—equal.

The following gentlemen were unavoidably absent from one examination :—David R. Macgregor, Dunfermline, obtained over 75 per cent. ; Messrs Austin M. Caverhill, Jedburgh ; P. Berrington Ghose, Trinidad ; George Henderson, Scotland ; Cecil H. Houghton, Ireland ; Saiduzzafar Khan, India ; and Francis George Saleeby, Palestine, obtained over 50 per cent. of the available marks.

THOMAS R. FRASER, M.D., *Professor.*

#### PATHOLOGY.

FIRST-CLASS HONOURS.—1. R. T. Baillie, Scotland ; 2. George R. Mill, Arbroath ; 3. James Halliday, Dumfries (*Medallists*) ; 4.



486 *Faculty of Medicine—Class Prize and Honours Lists.*

George Pereira, Trinidad, and T. S. Beauchamp Williams, Bangor—equal; 6. J. Dalglish, British Guiana; 7. D. C. Henry, Creetown, and Peter Murray, Morayshire—equal; 9. D. Macrae Aitken, Singapore; James Brownlee, Edinburgh; and Ernest A. Walker, Forfarshire—equal.

SECOND-CLASS HONOURS.—12. R. J. Bradley, Portobello; Stephen Gavin, Ireland; G. C. I. Robertson, Clackmannan; T. B. Shaw, Ireland, and Allan G. Waugh, Stirlingshire—equal; 17. George C. Burgess, Aberdeen; W. H. Dickinson, Durham; A. L. Gurney, Jersey; and W. Lee, England—equal; 21. R. A. J. Harper, Midlothian; 22. A. C. Begg, New Zealand; Andrew Hunter, Edinburgh; and Harry L. Spark, Forfar—equal; 25. W. E. Carnegie, Dickson, B.Sc., Edinburgh; J. G. Munro, Thurso; W. H. Prentice, Edinburgh; James Woods, Belfast—equal; 29. E. Emslie Brown, Scotland; R. W. Buchanan, M.A., B.Sc., Edinburgh; A. R. Johnston, M.A., Scotland; A. C. Keay, Edinburgh; John M'Kenzie, Scotland; and S. G. Peill, Madagascar—equal; 35. Shaik Dawood, India, and S. Lyle, Ireland—equal; 37. Charles C. Choyce, New Zealand; H. St J. Randell, Cape Colony; A. Ransome Wallis, Epsom; and Fred E. Wilson, Scotland—equal; 41. V. C. de Boinville, England; G. M'Farland, New Zealand; and C. W. Saleeby, Sussex—equal; 44. Jas. L. Duncan, Edinburgh, and P. F. M'Farland, Dumfriesshire—equal; 46. Alfred Brown, Scotland; R. V. Clark, Edinburgh; Edgar Jones, Wales; and George S. Murray, Bo'ness—equal; 50. W. Hamilton, Ireland, and Wm. M'Dougall, Morayshire—equal; 52. Roderick M. Grant, Inverness; David Munro, M.A., Littlehampton; Howard G. Pesel, England; and Ian Struthers Stewart, Langholm—equal; 56. William Miller, Edinburgh; W. S. Patton, India; and Paul Telles, Trinidad—equal; 59. Henry Buist, Dundee, and Edwin Wells, West Indies—equal; 61. A. K. H. Hallam, Sheffield, and Alexander M. Malcolmson, Leith—equal; 63. W. Inglis Dunn, Scotland, and W. A. Robinson, New Zealand—equal; 65. K. D. M'Rae, Edinburgh, and D. A. Ogilvie, Old Cumnock—equal; 67. J. R. Edward, Musselburgh; A. E. Hunter, Eskbank; Michael W. Robertson, Scotland; T. Lauder Thomson, Edinburgh; and Edward J. Tyrrell, Scotland—equal; 72. Edward P. Calder, Berwickshire; T. G. Boswell Dodds, Paris; John W. Duffus, Edinburgh; W. Eggeling, Scotland; and J. L. Palmer, Dublin—equal; 77. Laurence W. Pole, Edinburgh; Thomas A. Smyth, Ireland; and H. W. Swaffield, England—equal; 80. C. M. Anderson, Belfast; Arthur J. Brock, Scotland; James Brocket, Lanarkshire; Percy J. Hay, England; George A. Jolly, Edinburgh; J. Price Kennedy, Ireland; P. V. Langmore, New South Wales; and James S. E. Robertson, Burton-on-Trent—equal.

Absent from one Examination on account of illness:—Secondary Class Honours.—J. G. M'Bride, Edinburgh; D. A. Stewart,



Thurso; Arthur H. Firth, Edinburgh; George W. R. Skeen, Ceylon; C. Lindsay, Ireland; and Robert Sproule, Ireland.

Absent from two Examinations on account of illness:—Second-Class Honours.—E. S. Brett, Edinburgh; E. Thurlow Potts, Edinburgh.

### PRACTICAL PATHOLOGY.

FIRST-CLASS HONOURS.—1. David Young, Scotland.

SECOND-CLASS HONOURS.—2. George J. Lecesne, Jamaica, and Wm. Mair, M.A., B.Sc., Edinburgh—equal; 4. Edward S. Brett, Edinburgh, and Alexander R. Johnston, Scotland—equal; 6. C. W. Somerville, Scotland; 7. Charles M. Anderson, Belfast; Ian Struthers Stewart, Langholm; and H. P. Thompson, Lincolnshire—equal; 10. George McNeill, Haddington, and George W. R. Skean, Ceylon—equal.

W. S. GREENFIELD, M.D., *Professor.*

### MIDWIFERY.

FIRST-CLASS HONOURS.—1. R. A. Ross, Cape Colony; 2. W. E. Frost, Ireland; and F. D. Simpson, Bathgate—equal; 4. E. Ewart, Scotland, and A. A. Martin, New Zealand—equal (*Medallists*); 6. G. Wright, England; 7. G. Scott Carmichael, Scotland; J. Geikie, Scotland; and J. Pender, Scotland—equal; 10. A. B. Black, India; H. J. Hoile, Scotland; and H. J. Maclean, New Zealand—equal; 13. P. S. Haldane, Scotland; L. J. Hood, Australia; J. G. S. Jamieson, Scotland; N. Patterson, Scotland; and A. H. Reid, Trinidad—equal; 18. T. H. W. Alexander, Scotland; H. Mason, England; W. S. Soote, Scotland; and F. M. Wigg, Australia—equal; 22. R. Affleck, Galloway; T. S. Shephard, England; J. G. Macdougall, Montrose; J. M. A. Macmillan, Scotland; and A. M. Wood, Scotland—equal; 27. S. A. Ballantyne, Scotland; G. H. Hanna, Jamaica; and H. C. Keun, Singapore—equal; 30. J. Craig, Scotland; A. E. Goldie, Jamaica; W. Hutchison, Scotland; J. B. Primmer, Scotland; and J. H. Thornley, England—equal; 35. Harvey Baird, Perth; J. H. Bell, Scotland; O. C. Bradley, England; Y. Fukuda, Japan; S. M. de Kock, South Africa; A. C. W. MacHattie, West Indies; J. Munro, Scotland; W. H. Prentice, Edinburgh; and T. Grainger Stewart, Scotland—equal; 44. J. M. Jeffrey, Scotland; J. H. McKeen, Ireland; D. S. Macknight, Scotland; H. C. Nixon, England; and W. H. Winstanley, England—equal; 50. S. M. D. Campbell, Ireland; W. Girdwood, Cape Colony; W. Harris, England; F. C. Matthew, Scotland; J. C. Parker, Scotland; P. C. Rayner, England; P. W. Shepherd, England; A. G. Watson, Southport; and J. C. Zuidmeer, Cape Colony—equal.

SECOND-CLASS HONOURS.—58. J. M. L. Brown, Scotland; W. E. C. Dickson, Edinburgh; and F. F. C. Jagger, England—equal;

## 488 *Faculty of Medicine—Class Prize and Honours Lists.*

61. A. A. Ayton, Jamaica ; W. Eadie, England ; H. D. Shepherd, England ; and G. D. Whyte, England—equal ; 65. D. J. Ferguson, Richmond ; Thos. Graham, Wigton ; S. Lyle, Ireland ; and W. Wallace, England—equal ; 69. W. P. Cormack, Scotland ; F. K. Kerr, Leith ; and H. O. Smith, Scotland—equal ; 72. R. W. Buchanan, Edinburgh ; and F. G. S. Leary, Ireland—equal ; 74. S. G. Peill, Madagascar, and C. W. Saleeby, England—equal ; 76. J. Brocket, Scotland ; A. Brydon, Scotland ; H. Buist, Scotland ; J. P. Douglas, Scotland ; and H. C. Miller, Genoa—equal ; 81. C. Fraser, Scotland ; 82. R. S. Ellis, India ; A. C. Keay, Scotland ; R. A. Savage, Lagos ; and J. A. Smith, Ireland—equal ; 86. W. D. S. Harrison, England, and C. B. M'Conaghy, Ireland—equal ; 88. L. Bruce, Brechin ; J. G. M'Kenna, Scotland ; C. E. Pepper, England ; and H. M. Speirs, Haltwhistle—equal ; 92. J. V. Green, Scotland ; F. Hardie, Scotland ; W. Macdougall, Scotland ; and K. L. Teng, Straits Settlements—equal ; 96. J. P. Kennedy, Ireland, and C. P. Strong, India—equal ; 98. L. P. Brassey, England ; R. A. Cameron, New Zealand ; and A. D. Nimmo, Edinburgh—equal ; 101. W. C. A. Ross, Scotland ; 102. M. C. Beatty, Ireland, and A. B. Flett, Scotland—equal ; 104. B. G. Forman, Scotland ; R. M. Grant, Scotland ; R. Hamilton, England ; and C. C. P. Ritchie, Scotland—equal ; 108. W. MacLachlan, Scotland ; 109. W. Lee, England, and F. E. Wilson, Scotland, equal ; 111. G. B. Butt, India ; W. Eggeling, Scotland ; and N. Glegg, Edinburgh—equal ; 114. A. J. Brock, Scotland ; H. M. Roberts, Wales ; and D. A. Stewart, London—equal ; 117. W. J. Dunn, Scotland ; W. Hamilton, Ireland ; P. J. Hay, England ; and J. C. Kennedy, Wales—equal.

The following gentlemen were present at two examinations only. The names are arranged in the order of merit.

FIRST-CLASS HONOURS.—G. F. Buist, Scotland ; A. C. Lennie, Edinburgh ; C. Balfour Paul, Edinburgh ; S. Rattray, Scotland.

SECOND-CLASS HONOURS.—J. Duncan, Scotland ; J. Miskelly, Ireland ; G. R. Turner, London ; G. H. Steven, Edinburgh ; J. W. Duffus, Scotland ; J. A. L. Wallace, Scotland ; and O. L. Rhys, Wales.  
A. R. SIMPSON, M.D., *Professor.*

## SYSTEMATIC SURGERY.

### SENIORS.

FIRST-CLASS HONOURS.—1. A. M. Wood, Leith ; 2. J. B. Milne, Montrose (*Medallists*) ; 3. George Scott Carmichael, Scotland ; 4. G. H. Hanna, Jamaica, and Herbert Harris, Lincolnshire—equal ; 6. Angus M'Nab, New Zealand, and James Munro, Scotland—equal ; 8. William Wallace, England ; 9. Norman Paterson, Scotland ; 10. A. C. N. M'Hattie, West Indies, and H. J.

M'Lean, New Zealand—equal ; 12. Francis K. Kerr, Leith ; 13. A. B. Black, India ; 14. W. E. Frost, Ireland ; 15. S. A. Ballantyne, Scotland, and J. G. M'Dougall, Montrose—equal ; 17. O. C. Bradley, England, and John Craig, Edinburgh—equal ; 19. Harvey Baird, Perth ; 20. John Pender, Scotland ; 21. William Edie, England ; 22. T. Grainger Stewart, Edinburgh ; 23. C. B. Paul, Scotland.

SECOND-CLASS HONOURS.—24. James Geekie, Scotland ; 25. Alex. Trotter, Perth ; 26. John A. Smail, Edinburgh ; 27. Arthur D. Spence, Edinburgh ; 28. J. S. Rentoul, Ireland ; 29. A. A. Ayton, Jamaica, and R. A. Savage—equal ; 31. Robert Affleck, Galloway ; 32. Henry Alexander, Ireland ; 33. James H. M'Kee, Belfast ; 34. L. P. Brassey, England, and Malcolm Campbell, Edinburgh—equal ; 36. Thomas H. W. Alexander, Scotland ; James M. L. Brown, Scotland ; and J. B. Primmer, Scotland—equal ; 39. P. C. Raynor, England ; 40. Percy J. Hay, England ; 41. A. T. D. de Spiganovicz, Russia ; 42. L. C. Peel Ritchie, Scotland ; and Norman S. Wells, Burmah—equal ; 44. J. A. Smith, Ireland ; 45. S. M. D. Campbell, Ireland ; 46. Cecil H. Elmes, Ireland ; 47. T. R. Robertson, Edinburgh ; 48. Thomas S. Smyth, Ireland ; 49. Y. Fukuda, Japan ; 50. Edward Ewart, Moffat, and O. L. Rhys—equal.

#### JUNIORS.

FIRST-CLASS HONOURS.—1. J. Henderson Smith, Edinburgh ; 2. R. Veitch, Scotland ; 3. W. C. Morton, Trinidad (*Medallists*) ; 4. A. A. Hall, Leith ; 5. C. R. F. Hartley, England ; 6. Thomas Peebles, Edinburgh ; 7. A. Gray, Perthshire ; 8. W. H. Nutt, England, and H. S. Davidson, Scotland—equal ; 10. W. S. Robertson, Berwickshire, and J. M. Dewar, Scotland—equal ; 12. O. R. Gibson, Carlisle, and Daniel Allison, Scotland—equal ; 14. G. J. Farie, Bridge of Allan, and G. H. Skinner, Edinburgh—equal.

SECOND-CLASS HONOURS.—15. D. D. Paton, Scotland, and C. H. Muller, South Africa—equal ; 17. J. A. Roux, Cape Colony ; F. H. Gibson, England ; and E. Muir, Scotland—equal ; 20. J. A. Pottinger, Orkney ; 21. L. Turiansky, Scotland ; 22. James Girdwood, Ayr ; J. Allan-Anderson, Edinburgh ; R. A. Belilios, Harrow ; A. Buchanan, Argyleshire ; R. W. Craig, Dalkeith ; R. D. A. Douglas, Cape Town ; A. C. Geddes, London ; and J. E. Scott, England—equal ; 30. C. J. Wentzel, Cape Colony ; G. W. Armstrong, Wales ; G. Cunningham, Scotland ; A. F. Hughes, Grenada ; and Thomas Nicol, Scotland—equal ; 35. T. T. Thomson, India, and John Findlay, New Zealand—equal ; 37. J. M. Kirkness, Scotland, and L. A. H. Lack, Trinidad ; and E. J. Taylor, Scotland—equal ; 40. W. Dundas-Wright, London, and F. D. Crosthwaite, Edinburgh—equal ; 42. John Fortune, Scotland, and C. E. Dumanise, Trinidad—equal ; 44. C. F. A. Ober-

länder, Cape Colony ; 45. D. E. C. Pottinger, England ; E. G. Girdwood, South Africa ; R. W. Johnstone, Scotland ; and G. W. P. Maitland, India—equal ; 49. W. Sanderson, Tranent ; H. Caird, Scotland ; F. S. B. Fletcher, England ; J. D. Giles, Edinburgh ; J. W. Keay, Perthshire—equal ; 54. G. W. Young, London ; John Allan, Glasgow ; and A. Dangerfield, Edinburgh—equal ; 57. S. Dawod, India ; 58. G. S. Mackay, Aberfeldy ; 59. P. W. Mason, New Zealand ; 60. R. Buchanan, Edinburgh ; H. Speirs, Scotland ; and W. Readman, England—equal ; 63. W. Mackenzie, Elgin ; and W. H. Davidson, Ireland—equal ; 65. N. O. Rutherford, Scotland.

## PRACTICAL SURGERY.

### SENIORS.

HONOURS.—George Scott Carmichael, Scotland (*Medallist*) ; Herbert Harris, Lincolnshire (*Prox. Acces.*) ; A. M. Wood, Leith ; J. B. Milne, Montrose ; Norman Paterson, Scotland ; H. J. M'Lean, New Zealand ; and William Wallace, England—equal ; G. H. Hanna, Jamaica ; Angus M'Nab, New Zealand ; and John Pender, Scotland—equal ; W. E. Frost, Ireland ; A. C. N. M'Hattie, West Indies ; Harvey Baird, Perth ; and S. A. Ballantyne, Scotland—equal ; John A. Small, Edinburgh ; John Craig, Edinburgh ; F. K. Kerr, Leith ; and T. Grainger Stewart, Scotland—equal ; A. A. Ayton, Jamaica ; J. Munro, Scotland.

HAROLD J. STILES, M.B., *Demonstrator.*

### JUNIORS.

HONOURS.—H. S. Davidson, Scotland (*Medallist*) ; A. A. Hall, Leith (*Prox. Acces.*) ; G. W. B. Armstrong, Wales ; Angus Buchanan, Argyleshire ; G. Cunningham, Scotland ; W. H. Davison, Ireland ; J. M. Dewar, Scotland ; R. D. A. Douglas, Trinidad ; G. J. Farie, Bridge of Allan ; John Fortune, Scotland ; A. C. Geddes, London ; F. H. Gibson, England ; J. W. Keay, Perthshire ; G. S. Mackay, Aberfeldy ; P. W. Mason, New Zealand ; W. C. Morton, Trinidad ; C. H. Muller, South Africa ; D. D. Paton, Scotland ; Thomas Peebles, Edinburgh ; W. S. Robertson, Berwickshire ; W. Sanderson, Tranent ; G. E. Scott, England ; G. H. Skinner, Scotland ; J. Henderson-Smith, Edinburgh ; T. T. Thomson, India ; L. Turinsky, Scotland ; R. Veitch, Scotland.

JOHN STEVENSON, M.B., *Demonstrator.*

JOHN CHIENE, M.D., *Professor.*

## DISEASES OF THE LARYNX, EAR AND NOSE.

FIRST-CLASS HONOURS.—1. William Wallace ; 2. Norman S. Wells.

SECOND-CLASS HONOURS.—3. Simon A. Ballantyne ; 4. James Munro ; 5. Norman E. Harding.

P. M'BRIDE, M.D., *Lecturer.*

MEDICINE.

SENIOR DIVISION.

FIRST-CLASS HONOURS.—1. R. A. Ross, Cape Colony ; 2. J. H. Bell, Edinburgh ; E. Ewart, Scotland ; and T. Grainger Stewart, Scotland—equal (*Medallists*) ; 5. P. S. Haldane, Scotland, and A. A. Martin, New Zealand—equal ; 7. G. A. Davidson, Scotland ; 8. Robert Affleck, Galloway, and J. B. Milne, Scotland—equal ; 10. J. G. S. Jamieson, Scotland ; 11. A. B. Black, India, and W. E. Frost, Ireland—equal ; 13. G. H. Hanna, Jamaica, and J. S. Geikie, Scotland—equal ; 15. Harvey Baird, Scotland, and John Craig, Scotland—equal ; 17. A. C. M. M'Hattie, West Indies ; 18. T. H. W. Alexander, Scotland ; 19. Alexander Frew, Scotland, and G. Wright, England—equal ; 21. H. J. Hoile, Scotland, and H. C. Keun, Singapore, S.S.—equal ; 23. H. Crichton Miller, Genoa, Italy ; J. F. Selkirk, Aberdeen ; and A. Murray Wood, Scotland—equal ; 26. G. Duncan Whyte, England ; J. M. A. Macmillan, Scotland ; J. B. Primmer, Dunfermline ; J. Pender, Dumfriesshire ; and A. Brydon, Scotland—equal ; 31. S. A. Ballantyne, Scotland ; R. S. Ellis, India ; J. C. Zuidmeer, Cape Colony ; T. Graham, Wigton, Cumberland ; R. G. Leach, England ; J. H. M'Kee, Ireland ; H. J. M'Lean, New Zealand ; and T. S. Shepherd, England—equal ; 39. F. K. Kerr, Leith ; N. S. Wells ; James Munro, Scotland ; W. S. Scott, Scotland ; C. Balfour Paul, Scotland ; G. W. Guthrie ; L. Crossley, England ; W. P. Cormack, Scotland ; and J. M. L. Brown, Ayr—equal ; 48. W. Girdwood, Cape Colony ; Drummond J. Ferguson, England ; and G. F. Buist, Scotland—equal.

SECOND-CLASS HONOURS.—51. A. Trotter, Scotland ; S. R. Sibbald, Scotland ; Norman Patterson, Scotland ; J. C. Parker, Scotland ; J. G. M'Dougal, Scotland ; L. Laurie, England ; and J. L. Green, Scotland—equal ; 58. H. O. Smith, Scotland ; William Rogers, Wales ; H. Mason, England ; and F. F. C. Jagger, England—equal ; 62. T. J. G. Wilson, Tasmania ; F. D. Simpson, Scotland ; R. A. Savage, West Africa ; H. C. Nixon, England ; A. M'Nab, New Zealand ; S. M. de Kock, Cape Colony ; N. E. Harding, England ; and B. G. Forman, Scotland—equal ; 70. H. D. Shepherd, England ; R. A. J. Asbury, England ; and J. P. Campbell, Scotland—equal ; 73. William Wallace, England ; A. D. Spence, Scotland ; D. S. Macnight, Scotland ; and F. C. Mathew, Scotland—equal ; 77. K. L. Teng, Straits Settlements ; M. A. Swan, Scotland ; J. A. Smith, Ireland ; F. E. Robinson, Woolwich ; and P. C. Rayner, England—equal ; 82. J. H. Thornley, England ; C. E. Southon, India ; and F. Hardie, Scotland—equal ; 85. C. H. Elmes, Ireland ; A. J. Williamson, Haddington ; W. E. M'Farlane, South Sea ; C. B. M'Conaghy,



## 492 *Faculty of Medicine—Class Prize and Honours Lists.*

Ireland ; Norman Glegg, Scotland ; William Eadie, England ; J. P. Douglas, Dumfriesshire ; and G. B. Butt, India—equal ; 93. C. B. Snow ; O. L. Rhys, Wales ; R. A. Cameron, New Zealand ; and M. Balket, Burmah—equal ; 97. A. G. Watson, England ; H. M. Speirs, Haltwhistle ; R. Rutherford, Scotland ; R. Hamilton, England ; A. W. Fuller, England ; A. D. S. Cooke, India ; S. M. D. Campbell, Ireland—equal ; 104. J. R. Prytherch, Wales ; W. M'Lachlan, Scotland ; L. A. MacMunn, England ; J. Morrison, Antrim, Ireland ; John Jamieson, Scotland ; E. B. Jamieson, Scotland ; and H. A. Arbuckle—equal ; 111. H. M. Roberts, Wales ; T. A. Davie ; and A. J. Baird, Scotland—equal ; 114. B. H. S. Aylward, England ; A. S. Watson, England ; F. T. Thompson, England ; and J. A. Smail, Edinburgh—equal ; 118. R. M. Mitchell, Scotland ; 119. L. P. Brassey, England ; 120. Philip Weatherbe, Nova Scotia ; 121. C. E. Pepper, England ; S. E. Johnstone, Scotland ; and K. Chapel, Scotland—equal ; 124. A. D. Baugh, Jamaica ; 125. D. J. Barkley, Ireland ; 126. John Duncan, Dumfriesshire.

The following, arranged in the order of merit, were present at two examinations :—G. Scott Carmichael, Edinburgh ; David Munro, England ; J. G. Munro, Scotland ; H. B. Dodds, Scotland ; A. W. Wilson, England ; K. D. Melville, India ; Malcolm Campbell, Scotland ; J. D. Saner, England ; J. C. Kennedy, Wales ; J. Mickelly, Ireland ; J. W. Barrack, Scotland.

### JUNIOR DIVISION.

FIRST-CLASS HONOURS.—1. J. Brownlee, Scotland ; 2. R. W. Buchanan, Scotland ; W. E. Carnegie Dickson, Scotland ; and R. T. Baillie, Scotland—equal (*Medallists*) ; 5. T. Brown Shaw, Ireland ; 6. J. Mackenzie, Scotland ; 7. Henry Buist, Scotland ; G. R. Mill, Scotland ; Peter Murray, Scotland ; and W. H. Prentice, Scotland—equal ; 11. A. C. Keay, Scotland ; 12. J. H. Meikle, Scotland, and A. M. Malcolmson, Scotland—equal ; 14. Andrew Hunter, Scotland ; D. C. Henry, Creetown ; and A. A. Ayton, Jamaica—equal ; 17. G. B. Murray, Scotland ; 18. A. D. Nimmo, Edinburgh ; 19. J. Halliday, and P. F. M'Farlan, Scotland—equal ; 21. J. Brockett, Scotland, and W. H. Dickinson, England—equal ; 23. A. C. Begg, New Zealand ; R. M. Grant, Inverness ; W. Lee, England ; and R. J. Bradley, India—equal ; 27. A. R. Hallam, England, and K. D. C. Macrae, Scotland—equal ; 28. G. C. Burgess, Scotland, and L. W. Pole, Scotland—equal.

SECOND-CLASS HONOURS.—32. E. J. Tyrrell, Scotland ; G. C. J. Robertson, Scotland ; R. A. J. Harper, Scotland ; S. Garvin, Scotland ; W. Eggeling, Scotland ; and C. C. Choyce, New Zealand—equal ; 38. A. R. Wallis, England ; J. Woods, Ireland ; S. G. Peill, Madagascar ; J. Lindsay, Scotland ; and R. V.



Clark, Scotland—equal ; 43. J. R. Edward, Scotland, and J. M. Dupont, Bedford—equal ; 45. J. S. E. Robertson, England, and J. W. Duffus, Scotland—equal ; 47. S. Lyle, Ireland ; 48. P. V. Langmore, N.S. Wales ; 49. W. Murray, Scotland, and W. A. Robinson, New Zealand—equal ; 51. W. Mair, M.A. B.Sc., Scotland ; A. E. Hunter, Scotland ; and C. M. Anderson, Ireland—equal ; 54. F. E. Wilson, Scotland ; J. B. M'Cutcheon, Ireland ; J. P. Kennedy, Ireland ; and E. E. Brown, Scotland—equal ; 58. Shaik Dawood, India ; 59. C. W. V. Rutherford ; P. J. Hay, England ; and W. J. Dunn, Scotland—equal ; 62. C. F. T. Scott ; T. A. Smyth, Ireland ; A. J. de Spiganovicz, Russia ; and A. J. Brock, Scotland—equal ; 66. D. W. Standley, G. Pereira, G. A. Jolly, Scotland ; J. L. Duncan, Scotland ; T. G. B. Dodds, Paris ; A. W. S. Christie, Scotland ; A. Brown, Scotland ; and W. M. Bose, India—equal ; 74. M. W. Robertson, Scotland ; L. T. M'Clintock, England ; and A. R. Douglas, Arbroath—equal ; 77. R. T. Young, Scotland ; E. Wells, Grenada, W.I. ; H. P. Thompson, Baba Makhani, Singh Sodhi, Punjab ; N. F. MacHardy, Bo'ness ; Wm. Brown, Scotland ; and J. L. Palmer—equal ; 84. A. M'Ewan, Scotland ; A. R. Khan Lauddie, India ; R. A. Glegg, Edinburgh ; J. Dalgleish, British Guiana ; and E. P. Calder, Scotland—equal ; 89. A. G. Masson, Mauritius ; 90. T. L. Thomson, England ; H. St J. Randall, Cape Colony ; E. G. Nixon, Jamaica, B.W.I. ; E. Macmillan, Scotland ; and H. K. Macdonald, Scotland—equal ; 95. D. M. Aitken, Singapore ; 96. E. Jones ; 97. Robt. Murray ; 98. G. M'Neill, Scotland ; C. E. Hutson, and W. A. Duncan, Scotland—equal ; 101. E. C. C. Maunsell, Ireland ; 102. F. D. S. Mackenzie, New Zealand ; W. Hamilton, Ireland, and J. F. Allen—equal.

Present at two examinations (arranged in order of merit)—W. C. Spiers, O. J. Evans, and A. H. Firth.

JOHN WYLLIE, M.D., *pro Professor.*

#### DISEASES OF THE SKIN.

WINTER SESSION, 1899—FIRST-CLASS HONOURS.—1. James G. S. Jamieson (*Prizeman*) ; 2. H. J. Hoile.

SPRING SESSION, 1900.—FIRST-CLASS HONOURS.—1. William Hutchison (*Prizeman*) ; 2. William M'Lachlan.

W. ALLAN JAMIESON, M.D., *Lecturer.*

### Faculty of Music.

WINTER SESSION, 1899-1900.

#### HARMONY.

HONOURS CERTIFICATE.—1. Eliza M. Burt, Dunfermline (*Medallist*) ; 2. Jessie Kerr Anderson Cameron, London ; 3. Mary B. Ritchie, Dumfries ; 4. Agnes M. Macdonald, Cape Colony.

HONOURABLE MENTION CERTIFICATE.—5. Elizabeth Fleming, India.

### ADVANCED HARMONY.

#### FIRST SECTION.

HONOURS CERTIFICATE.—1. Janet G. Cooper, Edinburgh (*Medallist*); 2. Katherine Hain Fraser, St Andrews.

HONOURABLE MENTION CERTIFICATE.—3. Ada J. Macmillan, South Africa; 4. Nora F. Anderson, Edinburgh; 5. Janie W. M'Intosh, Edinburgh.

#### SECOND SECTION.

HONOURS CERTIFICATE.—Alys Moir, Edinburgh (*Medallist*).

### COUNTERPOINT AND COMPOSITION.

#### FIRST SECTION.

HONOURS CERTIFICATE.—1. Christina M. Watson, Edinburgh (*Medallist*).

HONOURABLE MENTION CERTIFICATE.—2. Ada J. Macmillan, South Africa; 3. Agnes M. Macdonald, Cape Colony.

### HISTORY OF MUSIC.

HONOURS CERTIFICATE.—1. Eliza M. Burt, Dunfermline (*Medallist*).

HONOURABLE MENTION CERTIFICATE.—2. Nora F. Anderson, Edinburgh; 3. Jessie K. Donald, Kirkwall; 4. Ada J. Macmillan, South Africa; 5. Christopher E. Allsopp, England.

### MUSICAL ANALYSIS.

HONOURS CERTIFICATE.—1. Eliza M. Burt, Dunfermline (*Medallist*); 2. John Peebles Conn, Penicuik (*Medallist*); 3. Mary B. Ritchie, Dumfries; 4. Janet Jeffrey, Edinburgh; 5. Jessie K. Donald, Kirkwall.

HONOURABLE MENTION CERTIFICATE.—6. Christopher E. Allsopp, England; 7. Nora F. Anderson, Edinburgh.

FREDERICK NIECKS, Mus.D., *Professor*.

# Examination Papers.



EXAMINATION PAPERS, 1899-1900.

Preliminary Examination Papers for Degrees  
in Arts, Science, Law (B.L.), and Music.

ENGLISH.—FIRST PAPER.

SATURDAY, 30th September 1899.—9 to 11 A.M.

FIVE, and not more than FIVE, questions are to be answered. Questions  
1, 2, and 6 must be answered by all.

1. Write an essay from two to three pages long, on one of  
the following subjects:—

- (a) Pope's *Homer* and Verse Translation.
- (b) Humour.
- (c) National Ambition.

2. Paraphrase:—

Love thou thy land, with love far brought  
From out the storied Past, and used  
Within the Present, but transfused  
Thro' future time by power of Thought.

True love turn'd round on fixed poles,  
Love, that endures not sordid ends,  
For English natures, freemen, friends,  
Thy brothers, and immortal souls.

But pamper not a hasty time,  
Nor feed with crude imaginings  
The herd, wild hearts and feeble wings,  
That every sophister can lime.

Deliver not the tasks of might  
 To weakness, neither hide the ray  
 From those, not blind, who wait for day,  
 Tho' sitting girt with doubtful light.

Make knowledge circle with the winds ;  
 But let her herald Reverence fly  
 Before her to whatever sky  
 Bear seed of men and growth of minds.

3. Give a general analysis of the following sentence, and parse the words italicised :—

O brother, when I told him what had chanced,  
 My sister's vision, and *the rest*, his face  
 Dark'ned, as I have seen it more than once,  
 When *some* brave deed seem'd to be done in vain,  
*Darken* ; and "Woe is *me*, my knights !" he cried,  
 "*Had* I been here ye had not sworn this *row*."

4. What kinds of English words are mainly of Native, what of Greek origin ? Give examples.

Or,

Derive *eight* of the following words :—*Starboard, malice, de-mean, chapman, firebrand, conspirator, forest, canopy, gipsy, expletive.*

5. Give the rules for the order of the words in an English sentence, with the principal exceptions to each.

6. Re-write, so as to correct or improve, the following sentences, giving reasons for any changes you make :—

(a) A history now by a Mr. Hume or a poem by a Mr. Pope would be examined with different eyes than had they borne any other name.

(b) I stood in Venice on the Bridge of Sighs,  
 A palace and a prison on each hand.

(c) All goes on satisfactorily at Winchester, the attention and attendance, I think, gradually deepening and increasing.



(d) I never did nor never shall consider marriage with a modern political economist as dangerous.

SECOND PAPER.

SATURDAY, 30th September 1899.—12 NOON to 2 P.M.

EIGHT, and not more than EIGHT, questions are to be answered. Of these, THREE must be taken from Section A (and of the THREE 2 or 6 must be ONE), THREE from Section B, and TWO from Section C.

A.

1. Give some account of two or three (not more) of the following works and personages :—

*Utopia*, *Una*, *Samson Agonistes*, *Imitations of Horace*, *She Stoops to Conquer*, *Hyperion*, *The Edinburgh Review*, *Esmond*, *Richard Feverel*, *Crossing the Bar*.

Or,

Give some details about either the chief historical writers in English, or the history of English fiction since Sir Walter Scott.

2. Show by references to Shakespeare's play (not long quotations) how he treats the character of Julius Caesar and of Cassius.

3. Discuss *Kenilworth* as a picture of manners and human character.

4. Give the substance, and add a judgment, of two of the following :—

*The Strayed Reveller*, *Balder Dead*, *Thyrsis*, *Sohrab and Rustum*.

5. Write a short life of Pope. How far is Johnson just to him ?

6. Write brief notes on five of the following :—

(a) "We are two lions litter'd in one day,  
And I the elder and more terrible."

(b) "He only, in a general honest thought  
And common good to all, made one of them."

(c) "She doubted not that some Italian sculptor had here represented the Naiad, whose inspirations gave laws to Rome."

(d) "Thy memory lasts both here and there,  
And thou shalt live as long as we.  
And after that—thou dost not care!  
In us was all the world to thee."

(e) Johnson's comparison of Pope with Dryden.

(f) "He long'd for it—press'd on—In vain!  
At the Straits fail'd that spirit brave.  
The south was parent of his pain,  
The south is mistress of his grave."

### B.

1. Sketch the Life *either* of Cardinal Wolsey, *or* of Simon de Montford.

2. Write notes on *four* of the following:—

The Conversion of Britain, the Battle of Hastings, the Great Charter, Edward I., and the Settlement of Wales, Lollardry, Livery and Maintenance, the English Reformation, Wyatt's Rebellion, the Casket Letters, Queen Elizabeth's Poor Law.

3. Write notes on *four* of the following:—

The Vikings, Cnut, Anselm, Wat Tyler, Warwick the King-Maker, Lovel's Rising, Lambert Simnel, Bishop Fisher, Cranmer, Darnley, Lord Howard of Effingham.

4. Sketch the history of Scotland during the reign of Edward I. of England.

5. Narrate the settlement of the English Church under the Tudors.

6. What were the main immediate effects of the Norman Conquest?

### C.

1. Draw a map of Africa south of the Equator, with a note on the political divisions.

2. Give some account of the chief islands about England and Scotland.

3. State the boundaries of the Russian Empire, distinguish its broad divisions, and name their physical features.

4. Describe the river systems, the various climates, and the general configuration of the United States.

FIRST PAPER.

SATURDAY, 24th March 1900.—9 to 11 A.M.

FIVE, and not more than FIVE, questions are to be answered. Questions 1, 2, and 6 must be answered by all.

1. Write an essay, from two to three pages long, on one of the following subjects:—

(a) Esmond's impression of Marlborough.

(b) Helps and hindrances to study.

(c) "Every great poet is a teacher."

2. Paraphrase:—

I grieve not that ripe knowledge takes away  
The charm that Nature to my childhood wore,  
For, with that insight, cometh, day by day,  
A greater bliss than wonder was before ;  
The real doth not clip the poet's wings—  
To win the secret of a weed's plain heart  
Reveals some clue to spiritual things,  
And stumbling guess becomes firm-footed art.  
Flowers are not flowers unto the poet's eyes,  
Their beauty thrills him by an inward sense ;  
He knows that outward seemings are but lies,  
Or, at the most, but earthly shadows, whence  
The soul that looks within for truth may guess  
The presence of some wondrous heavenliness.

3. Give a *general* analysis of the following sentence, and parse the words in italics :—

I should be much for open war, O Peers,  
*As* not behind in hate, if what was urged  
 Main *reason to persuade* immediate war  
 Did not dissuade me *most* and *seem* to cast  
 Ominous conjecture on the whole success ;  
*When* he who most excels in fact of arms,  
 In what he counsels and in *what* excels  
*Mistrustful*, grounds his courage on despair.

4. (a) Name, with examples, the principal foreign sources from which English vocabulary has been enriched.

Or,

(b) Derive *eight* of the following words: Berwick, conquer, naïve, wiseacre, van, anthem, cartoon, fellow, admiral, enormous, haggard, fancy, soothe.

5. Explain fully the various constructions that follow English verbs of incomplete predication, and show what changes take place when the active voice is turned into the passive.

6. Re-write, so as to correct or improve, the following sentences, giving reasons for any changes you make :—

(a) The guilelessness of his own heart led him to suspect none in others.

(b) By allowing a candle to remain too long unsnuffed the quantum of light given out is diminished.

(c) Brown spoke sharply: Smith retorted: and neither of them were sparing of reflections on each other.

(d) Some of this tea was presented to us, and the delicious flavour and aroma of the same is deeply engraved or engrafted on the tablets of our mental organisation and the heart of our memory.

SECOND PAPER.

SATURDAY, 24th March 1900.—12 NOON to 2 P.M.

EIGHT, and not more than EIGHT, questions are to be answered. Of these, THREE must be taken from Section A (and of the THREE 2 or 6 must be ONE), THREE from Section B, and TWO from Section C.

A.

1. Give some account of *two or three (not more)* of the following: *Griselda*, *Touchstone*, *Areopagitica*, *Stanzas to Cromwell*, *Tristram Shandy*, *Essays of Elia*, *Silas Marner*, *Abt Vogler*, *Herr Teufelsdröckh*, *John Inglesant*.

Or,

What do you consider the characteristic qualities of Milton's poetry?

2. Describe the character of Richard III. How far does history confirm the crimes laid to his charge in Shakespeare's drama?

3. What are the chief elements in the character of Colonel Esmond? Contrast his "dear mistress" with her daughter.

4. Discuss the descriptions of nature, the contemporary references and the personal reminiscences in Scott's *Marmion*.

Or,

Reproduce from *Marmion* Scott's description of any two of the following: *Marmion's reception at Norham Castle*; *Christmas in the olden days*; *the environs of Edinburgh as seen by Marmion*; *revelry in Holyrood*; *the Battle of Flodden*.

5. What historical personages did *Marmion* meet when in Scotland, and what was the nature of his interviews with each?

6. Write brief notes on the following:—

- (a) Within the ocean cave to pray,  
Where good St. Rule his holy lay  
From midnight to the dawn of day  
Sung to the billows' sound.

- (b) Fain would I ride forth to see  
The scene of elfin chivalry.
- (c) And now I watch my armour here  
By law of arms, till midnight's near.
- (d) I have read his books (and who doth not know them?)  
here in our calm woods, and imagine a giant to  
myself as I think of him, a lonely fallen Prometheus,  
groaning as the vulture tears him.
- (e) "Thou didst usurp my place, and dost thou not  
Usurp the just proportion of my sorrow?"
- (f) "When he," quoth she, "shall split thy heart with  
sorrow,  
Remember Margaret was a prophetess."

## B.

1. Write a concise account of the life *either* of Cromwell *or* of William of Orange.

2. Write notes on *four* of the following:—The Great Protestation; Benevolences; "the Second Great Charter"; the Triennial Acts; the Second Civil War; Foreign Policy of the Protector; Year of Anarchy; *Annus Mirabilis*; Battle of Sedgemoor; Solemn League and Covenant.

3. Write notes on *four* of the following:—Sir W. Raleigh, Bacon, Sir John Eliot, Falkland, Montrose, Monk, Louis XIV. Clarendon, Shaftesbury, Locke, Danby, Jeffreys, Marlborough.

4. Trace through its various stages the great constitutional struggle of the seventeenth century.

5. Describe the Puritans as religious men, warriors, and statesmen. What were their chief contributions to English literature?

6. Write with some detail a connected account of the events of any *one* of the following periods:—(1) 1637-1642, (2) 1647-1651, (3) 1658-1666, (4) 1679-1688.



**C.**

1. Draw a map of India, Burmah, and the Malay Peninsula, showing the principal rivers, mountain ranges, and towns.

2. What are the main railways radiating from London? Mention three important stations on each.

3. Give some account of the rivers, the industrial centres, and the colonies of Germany.

4. Describe the configuration and the internal physical features of South America.

**LATIN.—HIGHER STANDARD.**

**FIRST PAPER.**

**TUESDAY, 3rd October 1899.—9 to 11 A.M.**

**I. Translate into Latin:—**

Acton drew up his three companies into line to face the works of the enemy, some 800 yards distant. He explained his orders to the officers, telling them that the odds against them were enormous, but that the position in front was strong, but that there was at least one point at which it appeared to be weakly guarded. The officers however thought their force too small to be used with any hope of success in such a venture, and declined to move. "Then if you won't come," shouted Acton, "I will attack with my own men." So turning to his company he cried, "Forward! lads." But not a man would budge: they had no stomach for the job, having heard the dispute between the officers. In sheer desperation, Acton shouted that he would go by himself; and off he went single-handed. This was too much for British pluck to bear. First one, then a second, swore they would stand by their captain and ran out after him; at last the whole sixty, ashamed to be left behind, rushed out with a furious shout to join the others, and fell into rank behind them.

## II.—GRAMMAR.

1. Give the principal parts of : *uro, saucio, mordeo, haurio.*
2. What is meant by: *Ellipsis; Hendiadys; Zeugma; Asyndeton; Aposiopesis?* Give instances of each.
3. Distinguish between : *regēris, regēris; fūgit, fūgit; lābo, lābor, lābor; līquo, līquor, liquor; lātē, lātē, lātē, lātērē; mōratus, mōratus.*
4. Scan the following lines :—  
     Hos potius populos in dotem, ambage relicta,  
     Accipe, et advectas Pygmalionis opes.
5. Construct sentences exhibiting the following in their proper construction : *ne quidem—nescio quis—nedum—neu—qui* Final—*qui* Consecutive.

## SECOND PAPER.

TUESDAY, 3rd October 1899.—12 NOON to 2 P.M.

*Perdiccas chosen to succeed Alexander.*

## I. Translate into English :—

(a) “*Mea sententia haec est, ut, sede Alexandri in regia posita, qui consiliis eius adhibebantur, cocant, quoties in commune consulto opus fuerit, eoque, quod maior pars eorum decreverit, stetur; duces praefectique copiarum his pareant.*” Ptolemæo quidam, potiores Perdiccae assentiebantur. Tum Aristonus orsus est dicere, “*Alexandrum consultum, cui relinqueret regnum, voluisse optimum deligi: iudicatum autem ab ipso optimum Perdiccan, cui annulum tradidisset. Neque enim unum eum assedissee morienti; sed circumferentem oculos ex turba amicorum delegisse, cui traderet. Placere igitur, summam imperii ad Perdiccan deferri.*” Nec dubitavere quin vera censeret. Itaque universi procedere in medium Perdiccan et regis annulum tollere iuebant. Haerebat inter cupiditatem

pudoremque, et, quo modestius, quod exspectabat, appeteret, pervicacius oblaturus esse credebat. Itaque cunctatus, diuque quid ageret incertus, ad ultimum tamen recessit, et post eos qui sederant proximi constitit.

(b) Luna fere tremulum praebebat lumen eunti,

Ut comes in nostras officiosa vias.

Hanc ego suspiciens "faveas dea candida," dixi,

"Et subeant animo Latmia Saxa tuo.

Non sinit Endymion te pectoris esse severi :

Flecte, precor, vultus ad mea furta tuos.

Tu, dea, mortalem caelo delapsa petebas :

(Vera loqui liceat) quam sequor, ipsa dea est.

Neu referam mores caelesti pectore dignos,

Forma nisi in veras non cadit illa deas.

Quantum, cum fulges radiis argentea puris,

Concedunt flammis sidera cuncta tuis.

Tanto formosis formosior omnibus illa est ;

Si dubitas, caecum, Cynthia, lumen habes."

Haec ego, vel certe non his diversa locutus,

Per mihi cedentes nocte ferebar aquas.

## II.—SENTENCES.

1. A certain master gave all the best of his scholars twopence a-piece with which to buy nuts for themselves.

2. The more talkative a man is, the more reason you will have for feeling doubts as to his wisdom.

3. Having never known himself what it was to want, he was too selfish to pay any regard to the wants of others.

4. There is no doubt that if he had not gone there at once in person, the whole army would have broken out in mutiny.

## FIRST PAPER.

TUESDAY, 27th March 1900.—9 to 11 A.M.

## I. Translate into Latin:—

*Empedocles on Etna.*

Far back in ancient days there lived in Sicily a great and wise philosopher, whose name was Empedocles. He was possessed of all mental and bodily accomplishments; so wonderful indeed was he, and so wise in all respects, that the people regarded him as a god. Now it happened that Empedocles possessed a country place of his own on Mount Etna; and one evening, being a man of wealth, and inclined to hospitality, he had prepared a feast there for his friends. In such a house there was no lack of grave and interesting topics for conversation; and during the course of the repast, Empedocles spoke such wise and weighty words that all the guests cried out that he was no man, but a very god. During the night, Empedocles thought over what had happened, and said to himself: "You have risen as high as you can on earth. Now die, before adversity and feebleness take hold of you." Accordingly, next day, he threw himself into the burning crater, believing that if no one found his body the people would think that he had been taken up alive to the gods. And in that ambition he certainly would have succeeded had not his friends discovered his sandal lying close by the crater's mouth.

## II.—GRAMMAR, ETC.

1. Give the supine in *um* of *cello*, *fulcio*, *pinso*, *cio*; and the exact meaning of *at enim*, *atqui*, *quominus*, *ceu*.

2. Write the proper quantity over each syllable in the following words—*motus*, *movere*, *favit*, *amicitia*, *enimvero*, *sevi*, *citum*, *moles*, *molestus*.

3. Explain the following terms and phrases :—*sestertium decies, centuria praerogativa, repetundae, provocatio, non solvendo esse.*

4. Scan the following lines :—

Res audita mihi, nota est tibi ; fratribus orba

Devovit nati spemque caputque parens.

Bellum erat ; ille ferox positis secessit ab armis,

Et patriae rigida mente negavit opem.

5. Explain what is meant by an Adjectival, a Substantival, and an Adverbial clause respectively, and give one example of each.

## SECOND PAPER.

TUESDAY, 27th March 1900.—12 NOON to 2 P.M.

I. Translate :—

(a) Persaepe mihi cogitanti de communibus miseriis, in quibus tot annos versamur, et (ut video) versabimur, solet in mentem venire illius temporis, quo proxime fuimus una : quin etiam ipsum diem memoria teneo. Nam A.D. III. Idus Maias, Lentulo et Marcello consulibus, quum in Pompeianum vesperi venissem, tu mihi sollicito animo praesto fuisti. Sollicitum autem te habebat cogitatio tum officii, tum etiam periculi mei. Si manerem in Italia, verebaret, ne officio deessem : si proficiscerer ad bellum, periculum te meum commovebat. Pudori tamen malui famaeque cedere, quam salutis meae rationem ducere. Cuius me mei facti poenituit, non tam propter periculum meum, quam propter vitia multa, quae ibi offendi, quo veneram. Quae quum vidissem, desperans victoriam, primum coepi suadere pacem, cuius fueram semper auctor ; deinde, quum ab ea sententia Pompeius valde abhorreret, suadere institui, ut bellum duceret. Hoc interdum probabat et in ea sententia videbatur fore, et fuisset fortasse, nisi quadam ex pugna coepisset suis militibus confidere. Ex eo tempore vir ille summus nullus imperator fuit.

- (b)   Ite, leves elegi, doctas ad consulis auris ;  
           Verbaque honorato ferte legenda viro.  
 Luce minus decima dominam venietis in Urbem,  
           Ut festinatum non faciatis iter.  
 Protinus inde domus vobis Pompeia petatur :  
           Non est Augusto iunctior ulla foro.  
 Copia nec vobis ullo prohibente videndi  
           Consulis, ut limen contigeritis, erit.  
 Aut reget ille suos, dicendo iura, Quirites,  
           Conspicuum signis quum premet altus ebur ;  
 Aut, ut erunt Patres in Iulia templa vocati,  
           De tanto dignis consule rebus aget.  
 Quum tamen a turba rerum requieverit harum,  
           Ad vos mansuetas porriget ille manus ;  
 Quidque parens ego vester agam, fortasse requireret.  
           Talia vos illi reddere verba velim :  
 Vivit adhuc, vitamque tibi debere fatetur,  
           Quam prius a miti Caesare munus habet.  
 Pro quibus ut meritis referatur gratia, iurat,  
           Se fore mancipium tempus in omne tuum.

## II.—SENTENCES.

Translate into Latin :—

1. Caesar said that he would have destroyed their whole army had not night come on.
2. We were on the point of starting for Rome when a letter arrived from his uncle to stop us.
3. Tell me who you are, whence you have come, and what you are going to do.
4. Put the following sentence into *Oratio Recta*, omitting the words printed in Italics—(*Camillus palam sceleris plebem arguebat* :) Nam quod illi sperarent, effrenatam licentiam eius magistratus Patres laturos, falli eos. Si tribunicia vis tribunicio auxilio repelli nequeat, aliud telum Patres inventuros esse.



## LOWER STANDARD.

MONDAY, 2nd October 1899.—9 A.M. to 12 NOON.

## I. Translate :—

*How a private soldier sat in Alexander's seat.*

Forte Macedo gregarius miles, seque et arma sustentans, tandem in castra pervenerat: quo viso, rex, quamquam ipse tunc maxime admoto igne refovebat artus, ex sella sua exsiluit, torpentemque militem, et vix compotem mentis, demptis armis, in sua sede iussit considerare. Ille diu, nec ubi *requiesceret*, nec a quo esset exceptus, agnovit; tandem, recepto calore vitali, ut regiam sedem regemque vidit, territus surgit: quem intuens Alexander, "Ecquid intelligis, miles," inquit, "quanto meliore sorte, quam Persæ, sub rege *vivatis*? illis enim in sella regis consedissee capitale foret; tibi salutis fuit." Postero die, convocatis amicis copiarumque ducibus, pronunciari iussit ipsum omnia quæ amissa *essent*, redditurum; et promisso fides exstitit.

Account for the mood of the words in italics.

## II. Translate into Latin Prose :—

Another story is this. There was a young man who had grown up under John's care, and John was very fond of him. At last, after a time, John had to go away, and gave this young man in charge to a priest of Ephesus, and told him on no account to let him go astray. But when John came back and went to the priest, with whom he had left his young pupil, he saw from the good man's face that something sad had happened. "What is it?" he said. Then the priest told him how this young man had fallen in with bad companions, who tempted him away into the mountains; that they were there living the wild life of robbers, coming down every day from the hills, as robbers still do in those countries, to carry off travellers and ask a ransom for them.

## III.—GRAMMAR.

1. Write down the genitive, singular and plural, of the following words: *dos, funus, tribus, auris, hospes, imago*.

2. Give the positive, comparative and superlative of the adverbs formed from: *aeger, ferox, humilis, benivolus*.

Give the Latin for: *two each, nine times, thirty-fifth, seventeen hundred and seventy-seven*.

3. Give the principal parts of: *ludo, laudo, fodio, fido, findo, vello, valeo, volvo*.

Write down the 2nd person singular of the imperative, future, and perfect subjunctive of: *utor, audeo, quiesco*.

4. Write short Latin Sentences, with translation to show the difference between *alius* and *alter*; *per* and *ab*; *quam* and *quomodo*; *qui* with indicative and *qui* with subjunctive.

## IV.—SENTENCES.

1. He may have done this once, but I doubt whether he will do it again.

2. If you go to Athens, you will see what kind of city it was two thousand years ago.

3. The army was in such danger that messengers were sent to inform the Senate that the general himself had abandoned hope.

MONDAY, 26th March 1900.—9 A.M. to 12 NOON.

## I. Translate:—

*Antony defeated before the walls of Mutina.*

Cornu sinisterius, quod erat infirmius, et cohors praetoria, pedem referre coeperunt. Quum omnes se recepissent nostri ordines, recipere me novissimus coepi ad castra. Antonius, tamquam victor, castra putavit se posse capere. Quo quum venit, complures ibi amisit nec egit quidquam. Audita re, Hirtius cum cohortibus viginti veteranis redeunti Antonio

in sua castra occurrit, copiasque eius omnes delevit, fugavitque eodem loco, ubi erat pugnatum, ad Forum Gallorum. Antonius cum equitibus hora noctis quarta se in castra sua ad Mutinam recepit. Hirtius in ea castra rediit, unde Pansa exierat, ubi duas legiones reliquerat, quae ab Antonio erant oppugnatae. Sic partem maiorem suarum copiarum Antonius amisit veteranarum. Nec id tamen sine aliqua iactura cohortium praetorianarum nostrarum et legionis Martiae fieri potuit. Aquilae duae, signa sexaginta sunt relata Antonii. Res bene gesta est.

## II. Translate into Latin:—

Meanwhile the king, satisfied with the easy and almost bloodless victory which he had gained, was advancing slowly through the enemies' country. He believed that he would now have no difficulty in entering their capital. But when, after a march of three days, he came in sight of the town, he saw at once that the inhabitants were preparing to stand a siege. He believed, however, that if he were in possession of the hills which overlooked the town on the east, resistance to his assault would be impracticable. He therefore put his son in command of a detachment of horse and a picked body of foot, and sent this force with instructions to seize and hold these positions. But the prince found that the enemy's forces were already strongly entrenched there, and after a gallant effort to dislodge them, he was compelled to retire baffled, with great loss. A second attempt was equally unsuccessful. A direct assault on the town was now hopeless, and the only alternative was to invest the place and reduce it by famine.

## III.—GRAMMAR.

1. Write down the meaning, the gender, and the genitive plural of *bos*, *aries*, *auriga*, *quercus*, *facinus*, *respublica*.
2. Give the superlative of *parvus*, *felix*, *diu*; the exact English

of *quisque*, *quidam*, *quilibet*; and the Latin for *thirtieth*, *thirty times*, *one million*.

3. Write down the principal parts (*i.e.* 1st person perfect, supine, and infinitive) of *rapio*, *cupio*, *tango*, *caedo*, *fero*, *sepelio*, *iuvo*, *ordior*.

4. Write short Latin sentences, with translation, to show the proper construction and meaning of *nubo*, *careo*, *oppono*, *paenitet*, *gratulor*, *utor*.

5. Translate and explain the phrases: (1) *Dimidio maior*; (2) *Minimi hunc aestimo*; (3) *Patri tuo consulendum est*; (4) *Vir maximi ingenui*.

#### IV.—SENTENCES.

Translate into Latin:—

1. The more I see of him, the less I like him.

2. Having found his son, I went to his house to tell him the good news.

3. Hoping to see him next day, I said that I would return if possible.

#### GREEK—HIGHER STANDARD.

##### FIRST PAPER.

WEDNESDAY, 4th October 1899.—9 to 11 A.M.

#### I. Translate:—

*How the men of Segesta deceived the Athenians.*

Οἱ δὲ Ἑγεσταῖοι τοιόνδε τι ἐξετεχνήσαντο τότε, ὅτε οἱ πρῶτοι πρέσβεις τῶν Ἀθηναίων ἦλθον αὐτοῖς ἐς τὴν κατασκοπὴν τῶν χρημάτων. ἔς τε τὸ ἐν Ἑρκεῖ ἱερὸν τῆς Ἀφροδίτης ἀγαγόντες αὐτοὺς ἐπέδειξαν τὰ ἀναθήματα, φιάλας τε καὶ οἰνοχόας καὶ θυμιατήρια καὶ ἄλλην κατασκευὴν οὐκ ὀλίγην, ἃ ὄντα ἀργυρᾷ πολλῷ πλείω τὴν ὄψιν ἀπ' ὀλίγης δυνάμεως χρημάτων παρείχετο καὶ ἰδίᾳ ξενίσεις ποιοῦμενοι τῶν τριηριτῶν τά τε ἐξ αὐτῆς Ἑγέστης ἐκπώματα

καὶ χρυσᾶ καὶ ἀργυρᾶ ξυλλέξαντες καὶ τὰ ἐκ τῶν ἐγγύς πόλεων καὶ Φοινικικῶν καὶ Ἑλληνίδων αἰτησάμενοι ἐσέφερον ἐς τὰς ἐστιάσεις ὡς οἰκεῖα ἕκαστοι. καὶ πάντων ὡς ἐπὶ τὸ πολὺ τοῖς αὐτοῖς χρωμένων καὶ πανταχοῦ πολλῶν φαινομένων μεγάλην τὴν ἑκπληξιν τοῖς ἐκ τῶν τριήρων Ἀθηναίοις παρῆλθεν, καὶ ἀφικόμενοι ἐς τὰς Ἀθήνας διεθρόησαν ὡς χρήματα πολλὰ ἴδοιεν. καὶ οἱ μὲν αὐτοὶ τε ἀπατηθέντες καὶ τοὺς ἄλλους τότε πείσαντες, ἐπειδὴ διήλθεν ὁ λόγος ὅτι οὐκ εἴη ἐν τῇ Ἐγέστη τὰ χρήματα, πολλὴν τὴν αἰτίαν εἶχον ὑπὸ τῶν στρατιωτῶν· οἱ δὲ στρατηγοὶ πρὸς τὰ παρόντα ἐβουλευόντο.

## II. Translate one of the following passages :—

### (a) *Oedipus tells his story.*

Ἔμοι πατὴρ μὲν Πόλυβος ἦν Κορίνθιος  
μήτηρ δὲ Μερόπη Δωρίς. ἡγόμην δ' ἀνὴρ  
ἀστῶν μέγιστος τῶν ἐκεῖ, πρὶν μοι τύχη  
τοιᾷδ' ἐπέστη, θαυμάσαι μὲν ἀξία  
σπουδῆς γε μέντοι τῆς ἐμῆς οὐκ ἀξία.  
ἀνὴρ γὰρ ἐν δαίπνοις μ' ὑπερπλησθεὶς μέθῃ  
καλεῖ παρ' οἴνῳ πλαστὸς<sup>1</sup> ὡς εἶην πατρί.  
κἀγὼ βαρυνθεὶς τὴν μὲν οὔσαν ἡμέραν  
μόλις κατέσχον· θατέρῃ δ' ἰὼν πέλας  
μητρὸς πατρός τ' ἤλεγχον· οἱ δὲ δυσφόρως  
τοῦναιδος ἦγον τῷ μεθέντι τὸν λόγον.  
κἀγὼ τὰ μὲν κείνοιον ἑτερπόμην, ὅμως δ'  
ἔκνιζέ μ' αἰεὶ τοῦθ'· ὑφείρπε γὰρ πολὺ.  
λάθρα δὲ μητρὸς καὶ πατρὸς πορεύομαι  
Πυθώδε. καὶ μ' ὁ Φοῖβος ὦν μὲν ἰκόμεν  
ἄτιμον ἐξέπεμψεν· ἄλλα δ' ἄθλια  
καὶ δεινὰ καὶ δύστηνα προῦφηνεν λέγων.

### (b) *Telemachus sets out.*

Ἄν δ' ἄρα Τηλέμαχος νηὸς βαῖν', ἦρχε δ' Ἀθήνη,  
νηὶ δ' ἐνὶ πρύμνῃ κατ' ἄρ' ἔζετο· ἄγχι δ' ἄρ' αὐτῆς

<sup>1</sup> "Feigned."

ἔξετο Τηλέμαχος· τοὶ δὲ πρυμνήσι' ἔλυσαν,  
 ἂν δὲ καὶ αὐτοὶ βάντες ἐπὶ κληῖσι καθίζον.  
 τοῖσιν δ' ἴκμενον οὔρον ἴει γλαυκῶπις Ἀθήνη,  
 ἄκραῃ Ζέφυρον, κελάδοντ' ἐπὶ οἴνοπα πόντον.  
 Τηλέμαχος δ' ἐτάροισιν ἐποτρύνας ἐκέλευεν  
 ὕπλων ἄπτεσθαι· τοὶ δ' ὀτρύνοντος ἄκουσαν.  
 ἰστὸν δ' εἰλάτινον κοίλης ἔντοσθε μεσόδμης  
 στήσαν αἰείραντες, κατὰ δὲ προτόνοισιν ἔδησαν,  
 ἔλκον δ' ἰστία λευκὰ εὖστρέπτοισι βοεῦσιν.  
 ἔπρησεν δ' ἄνεμος μέσον ἰστίον, ἀμφὶ δὲ κῦμα  
 στείρη πορφύρεον μεγάλ' ἴαχε νηὸς ἰούσης·  
 ἣ δ' ἔθεεν κατὰ κῦμα διαπρήσσουσα κέλευθον.

## SECOND PAPER.

WEDNESDAY, 4th October 1899.—12 NOON to 2 P.M.

## I. Translate into Greek:—

(a) I remember all the friends whom I trusted; but they have forgotten their promises and have not followed me. They chose me to rule over them; but now they refuse to be ruled.

(b) The big boy stripped the little boy of his tunic and did him great violence, forbidding him to tell his brother. But the child waited, in order to avenge himself upon his assailant until he himself should be out of danger.

(c) If we be willing to die for the sake of justice, we shall have a good name among our fellow-citizens. If we are going to be apprehensive of dangers, we shall get into many difficulties. Were we to show ourselves men when attacked, we should not be overcome.

(d) I know that they would fear lest they should be taken if they were to adopt this course, but I assert that if they had adopted it then, there would be no need to deliberate now how they are to act.



(e) Whatever may seem good to you, fear not to do. Formerly you wished to take what you could, and now you must accept what is offered. Only see to it that you be just.

## II. GRAMMAR.

1. Point out what is unusual in the forms: εἶχον, εἶρπον, ἐκάθειδον, ἡφίουν, ἡδυνάμην, ἡνειχόμην, ὠκοδόμουν, δυσηρέστουν, ἐώκειν, ἐώρων.

2. Give the future active, the aorists and the perfects active and passive, when existing, of χέω, ἐῶ, τρέφω, ῥίπτω, αἴρω.

3. State, with examples, the special rules for the construction of πρίν.

Translate and explain: (1) οὐκ ἔφη αὐτὸς ἀλλ' ἐκείνον ποιῆσαι. (2) ὅπως τοῦτο ποιήσεις, ὥς ἐμοῦ ὄντος πέλας. (3) οὐ μὴ ποτ' εὖ πράξει πόλις.

(4) Construct sentences illustrating the principal uses of the adverb ἄν in Attic Greek. Explain what is meant by the "Iterative ἄν."

## FIRST PAPER.

WEDNESDAY, 28th March 1900.—9 to 11 A.M.

### 1. Translate:—

*Alexander's address to his Macedonian troops.*

εἰ μὲν δὴ ὑμᾶς ποιοῦντας καὶ κινδυνεύοντας αὐτὸς ἀπόνως καὶ ἀκινδύνως ἐξηγοῦμενος ἦγον, οὐκ ἀπεικότως ἂν προεκάμνετε ταῖς γνώμαις, τῶν μὲν πόνων μόνοις ὑμῖν μετόν, τὰ δὲ ἄθλα αὐτῶν ἄλλοις περιποιοῦντες. νῦν δὲ κοινοὶ μὲν ἡμῖν οἱ πόνοι, ἴσον δὲ μέτεστι τῶν κινδύνων, τὰ δὲ ἄθλα ἐν μέσῳ κείται ξύμπασιν. ἢ τε γὰρ χώρα ὑμιτέρα καὶ ὑμεῖς αὐτῆς σατραπεύετε. καὶ τῶν χρημάτων τὸ μέρος νῦν τε ἐς ὑμᾶς τὸ πολὺ ἔρχεται καὶ ἐπειδὰν ἐπεξέλθωμεν τὴν Ἀσίαν, τότε οὐκ ἐμπλήσας μὰ Δία ὑμᾶς, ἀλλὰ καὶ ὑπερβαλὼν ὅσα ἕκαστος ἐλπίζει ἀγαθὰ ἔσσεσθαι, τοὺς μὲν ἀπιέναι οἰκάδε ἐθέλοντας εἰς τὴν

οἰκείαν ἀποπέμψω ἢ ἐπανάξω αὐτός· τοὺς δὲ αὐτοῦ μένοντας ζηλωτοὺς τοῖς ἀπερχομένοις ποιήσω.

ταῦτα καὶ τὰ τοιαῦτα εἰπόντος Ἀλεξάνδρου, πολὺν μὲν χρόνον σιωπὴν ἦν οὔτε ἀντιλέγειν τολμώντων πρὸς τὸν βασιλέα ἐκ τοῦ εὐθέος οὔτε ξυγχωρεῖν ἐθελόντων. ἐν δὲ τούτῳ πολλάκις μὲν Ἀλέξανδρος ἐκέλευε λέγειν τὸν βουλόμενον, εἰ δὴ τις τὰ ἐναντία τοῖς ὑπ' αὐτοῦ λεχθεῖσι γιγνώσκει· ἔμενε δὲ καὶ ὡς ἐπὶ πολὺν ἡ σιωπὴ· ὅψε δὲ ποτε θαρσύνσας Κοῖνος ὁ Πολεμοκράτους εἶπε τοιαύδε.

## 2. Translate one of the following passages :—

(a) *Iphigenia pleads with her maidens to assist the escape of Orestes, Pylades, and herself.*

ὦ φίλταται γυναῖκες, εἰς ὑμᾶς βλέπω,  
καὶ τᾶμ' ἐν ὑμῖν ἔστιν ἢ καλῶς ἔχειν  
ἢ μηδὲν εἶναι καὶ στερηθῆναι πάτρας  
φίλης τ' ἀδελφῆς φιλάτου τε συγγόνου.  
σιγήσαθ' ἡμῖν καὶ συνεκπονήσατε  
φυγᾶς· καλὸν τοι γλῶσσ' ὅτῳ πιστὴ παρῇ.  
ὁρᾶτε δ' ὡς τρεῖς μία τύχη τοὺς φιλάτους,  
ἢ γῆς πατρώας νόστος ἢ θανεῖν, ἔχει.  
σωθεῖσθα δ', ὡς ἂν καὶ σὺ κοινώσης τύχης,  
σώσω σ' ἐς Ἑλλάδ'. ἀλλὰ πρὸς σε δεξιᾶς,  
σὲ καὶ σ' ἱκνοῦμαι, σὲ δὲ φίλης παρηίδος,  
γονέων τε καὶ τῶν ἐν δόμοισι φιλάτων.  
τί φατέ; τίς ὑμῶν φησιν ἢ τίς οὐ θέλει;  
φθέγγασθε δῆτα· μὴ γὰρ αἰνουσῶν λόγους  
ὄλωλα καὶ γῶ καὶ κασίγνητος τάλας.

Χο. θάρσει, φίλη δέσποινα, καὶ σώξου μονον·  
ὡς ἔκ·γ' ἐμοῦ σοι πάντα σιγηθήσεται,  
ἴστω μέγας Ζεὺς, ὦν ἐπισκῆπτεις πέρι.

(b) *Menelaus wishes to fight with Hector: Agamemnon dissuades him.*

ὦς ἄρα φωνήσας κατεδύσετο τεύχεα καλά.  
ἔνθα κέ τοι, Μενέλαε, φάνη βιότοιο τελευτῇ

Ἕκτορος ἐν παλάμῃσιν, ἐπεὶ πολὺν φέρτερος ἦεν,  
εἰ μὴ ἀναΐξαντες ἔλον βασιλῆες Ἀχαιῶν·  
αὐτός τ' Ἀτρεΐδης εὐρὺ κρείων Ἀγαμέμνων  
δεξιτερῆς ἔλε χειρός, ἔπος τ' ἔφατ' ἔκ τ' ὀνόμαζεν·  
“ ἄφραίνεις, Μενέλαε διοτρεφές, οὐδέ τί σε χρὴ  
ταύτης ἀφροσύνης· ἀνὰ δὲ σχέο, κηδόμενός περ,  
μῆδ' ἔθελ' ἐξ ἔριδος σεῦ ἀμείνοινι φωτὶ μάχεσθαι,  
Ἕκτορι Πριαμίδῃ, τόν τε στυγέουσι καὶ ἄλλοι.  
καὶ δ' Ἀχιλεὺς τούτῳ γε μάχῃ ἐνὶ κυδιανείρῃ  
ἔρριγ' ἀντιβολῆσαι, ὃ περ σέο πολλὸν ἀμείνων.  
ἀλλὰ σὺ μὲν νῦν ἵξεν ἰὼν μετὰ ἔθνος ἑταίρων,  
τούτῳ δὲ πρόμον ἄλλον ἀναστήσουσιν Ἀχαιοί.”  
ὥς εἰπὼν παρέπεισεν ἀδελφειοῦ φρένας ἥρως,  
αἶσιμα παρειπών· ὃ δ' ἐπέειθετο. τοῦ μὲν ἔπειτα  
γῆθοσσυνοι θεράποντες ἀπ' ὤμων τεύχε' ἔλοντο.

## SECOND PAPER.

WEDNESDAY, 28th March 1900.—12 NOON to 2 P.M.

### I. Translate into Greek:—

(1) The walls were abandoned by the enemy, who fled without waiting to be attacked, and collected in the Acropolis.

(2) Seeing the walls deserted, the Greeks thought that the town was already taken, but when they discovered the truth, some began to undermine (ὑπορύττειν) the wall, while others placed ladders (κλίμαξ) against it.

(3) The general, fearing that his men would be repulsed, snatched a ladder from one of the bearers and mounted the wall.

(4) He knew that if he stayed where he was, he ran a great risk of being shot; if he fell, his deeds would be worthy of remembrance and his death glorious.

(5) When he had leaped from the wall, he slew one man

with his sword, another with a stone, so that the barbarians, no longer venturing to approach, stood round in a circle and shot at him from every side.

(6) At last he was wounded in the breast by a javelin ; and having slain all the Persians, they bore him on his shield to the camp.

## II. GRAMMAR.

(1) Give the gender, the genitive singular, and the dative plural of δόρυ, θρίξ, σοφιστής, ὄρος, ἔξοδος.

(2) Parse the following :—ἐπήνεσαν, ἀνοίσεται, μεθέξοι, εἰργασται, ἐπῆξε, πῆγ, ἐπίγ, εἵποντο.

(3) Give the Future Active, the Perfects Active and Passive, and the Aorist Active of ἀφίγημι, λείπω, τέμνω, στέλλω, αὐξάνω.

(4) Make short sentences, with English translation, to show the usage of ἵνα, μέχρι (conjunction), οὐκέτι, ὁπόθεν, ὥσπερ, καίπερ.

(5) Distinguish πρὸς ταῦτα, πρὸς τούτοις, ἐπὶ τούτοις ; εὖ ποιεῖν, εὖ πράττειν ; ἀποδίδοναι τι, ἀποδίδοσθαί τι ; οὐκ ἂν γένοιτο, μὴ γένοιτο, οὐ μὴ γένηται.

## LOWER STANDARD.

SATURDAY, 30th September 1899.—3 to 6 P.M.

### I. Translate :—

#### *The Advice of Parmenio.*

“Ἐμοὶ δοκεῖ, βασιλεῦ, ἀγαθὸν εἶναι ἐν τῷ παρόντι καταστρατοπεδεῦσαι ἐπὶ τοῦ ποταμοῦ τῇ ὄχθῃ ὡς ἔχομεν. τοὺς γὰρ πολεμίους οὐ δοκῶ τολμήσειν πλησίον ἡμῶν αὐλισθῆναι. ἔωθεν δὲ εὐπετῶς διαβαλοῦμεν τὸν πόρον· φθησόμεθα γὰρ αὐτοὶ διαβάντες πρὶν ἐκείνους ἐς τάξιν καθίστασθαι. νῦν δὲ οὐκ ἀκινδύνως μοι δοκοῦμεν ἐπιχειρήσειν τῷ ἔργῳ, ὅτι οὐχ οἷόν τέ ἐστιν ἄγειν τὸν στρατὸν ἐν μετώπῳ διὰ τοῦ ποταμοῦ. πολλὰ μὲν γὰρ αὐτοῦ ὁρᾶται βαθέα, αἱ δὲ ὄχθαι αὐταὶ ὁρᾶς ὅτι εἰσὶν ὑπερύψηλοι καὶ κρημνώδεις. ἀτάκτως

τε οὖν καὶ κατὰ κέρας, ἥπερ ἀσθενέστατον, ἐκβησόμεθα· ἡμῖν δὲ ἐκβαίνουσιν ἐπικείσονται τῶν πολεμίων οἱ ἱππεῖς ἐς φάλαγγα συν-  
τεταγμένοι· καὶ τὸ πρῶτον σφάλμα οἶσθα ἔς τε τὰ παρόντα χαλεπὸν  
ὄν, καὶ ἐς τὴν περὶ παντὸς τοῦ πολέμου κρίσιν σφαλερόν.”

## II.—GRAMMAR.

1. Give the (1) genitive sing., (2) accusative sing., (3) dative plur. of πόλις, ἐρίς, πατήρ, νεῶς, ὕδωρ, ναῦς.

2. Compare ἄξιος, μέλας, ἡδέως, ἐχθρός, ἀμαθής.

Give the accus. sing. and dat. plur. (all genders) of ἡδύς, χαρίεις, πορφύρεος, ἀληθής.

3. Decline in plural ὅστις, οὗτος.

Give Greek for:—(1) The same man, (2) This great victory, (3) My own father, (4) Both generals, (5) Their city, (6) The soldiers themselves.

4. Write down the 1st pers. singular (1) perf. (2) fut. (3) aor. of φθάνω, κάμνω, ζεύγνυμι, ἔπομαι, ἐλαύνω, χέω.

Identify these forms: ἐβλήθη, ἐκτίσω, ἐστῶσι, δέδοται, ὑφίεντο, εἶα.

5. Give Greek for:—*day by day, up the river, owing to you, on these conditions*; and English for:—*πρὸς τούτοις, μετ' ἀδικίας, παρὰ βασιλεῖ, οἱ ἐφ' ἡμῶν.*

## III. Translate into Greek:—

(a) We see we are unable to conquer.

(b) I was not hindered from learning by any one.

(c) He did not tell us what he would do if they attacked him.

(d) Don't do this, for you know it is foolish.

(e) If I had the money now I would give it to you; but I fear I have lost it.

SATURDAY, 24th March 1900.—3 to 6 P.M.

## I. Translate :—

*How Generals differ.*

καὶ οἱ στρατηγοὶ ἔστιν ἐν οἷς τῶν στρατηγικῶν ἔργων οὐ γνώμη διαφέροντες ἀλλήλων οἱ μὲν βελτίονες οἱ δὲ χείρονές εἰσιν, ἀλλὰ σαφῶς ἐπιμελεία. ἂ γὰρ καὶ οἱ στρατηγοὶ γινώσκουσι πάντες καὶ τῶν ιδιωτῶν οἱ πλεῖστοι, ταῦτα οἱ μὲν ποιοῦσι τῶν ἀρχόντων οἱ δ' οὔ. οἶον καὶ τόδε γινώσκουσιν ἅπαντες, ὅτι διὰ πολεμίας πορευομένους βέλτιόν ἐστι τεταγμένους πορεύεσθαι οὕτως, ὥς ἂν ἄριστα μάχοιντο, εἰ δέοι. τοῦτο τοίνυν γινώσκοντες οἱ μὲν ποιοῦσιν οὕτως, οἱ δ' οὐ ποιοῦσι. φυλακὰς ἅπαντες ἴσασιν ὅτι βέλτιόν ἐστι καθιστάναι καὶ ἡμερινὰς καὶ νυκτερινὰς πρὸ τοῦ στρατοπέδου. ἀλλὰ καὶ τούτου οἱ μὲν ἐπιμελοῦνται ὥς ἔχη οὕτως, οἱ δ' οὐκ ἐπιμελοῦνται.

## II. GRAMMAR.

1. Give the (1) gender, (2) gen. sing., (3) acc. sing., (4) dat. plur. of ὄρνις, γένος, βοῦς, θυγάτηρ, πούς, θρίξ, πόλις, ἐλπίς.

2. Write down (1) the genitive and acc. sing., all genders, of ἀργυροῦς, γλυκὺς, μέγας, φιλῶν (*participle*); (2) the dat. and acc. plural, all genders, of χαρίεις, ἐκόν, μέλας, τιθείς (*participle*).

3. (1) Compare μέσος, καλός, φίλος, σοφῶς, εἴνων, σαφῶς. (2) Give Greek for—five, sixth, seven times, a hundred, three hundred, a thousand.

4. What Greek prepositions with what cases would you use in the following instances (do not translate):—"Riding *on* a horse *through* the city *with* his followers *to* the place where the messengers *from* his brother had perished *after* the battle *because* of their fidelity, he there vowed that *with the help* of the gods he would march *against* the foe, and would avenge the deed *done by* him."

5. Give (1) the 1st sing. aor. act. of ἐῶ, πίνω, ἐσθίω, ρίπτω; (2) the fut. infin. act. of ἐλαύνω, ἀκούω, εὐρίσκω, φαίνω; (3) the 3rd plur. perf. act. of λαμβάνω, ἵστημι, πιάσχω, ὀρώ; (4) the 3rd sing. aor. pass. of βάλλω, θάπτω, τέμνω, δίδωμι.



6. Give Greek for:—(1) All the cities; (2) his house; (3) our army; (4) the majority; (5) the city by the sea.

III. Translate into Greek:—

- (1) This is the same man, and he says he knows our friends.
- (2) He who will not give is a bad citizen, and I fear this man will not.
- (3) You hear him: do not perform his commands.
- (4) He saw we were in difficulty, and did not follow us.
- (5) If they had been noble they would have received great rewards.

## MATHEMATICS (INTERMEDIATE AND HIGHER).

### FIRST PAPER

THURSDAY, 5th October 1899.—9 to 11 A.M.

*Candidates may obtain FULL marks by doing correctly about two-thirds of this paper; but the Examiners may reject a candidate who shows exceptional weakness in any of the sections A, B, C.*

*The pass mark for Intermediate Candidates is fixed with reference to the total number of marks assigned to questions which fall under the syllabus of the Intermediate Standard; but such Candidates will receive credit for any question they may answer.*

### A.

1. A man leases a house at a rent of £162 a year, payable at the end of each half-year. He agrees in consideration of a reduction to pay the rent at the beginning of each half-year; what ought the reduced rent to be, the current rate on investments being  $2\frac{1}{2}$  per cent. per annum?

2. Show that

$$(1-x)^2(y-z) + (1-y)^2(z-x) + (1-z)^2(x-y) + (y-z)(z-x)(x-y) = 0.$$

## 3. Simplify

$$\left(\frac{x+y}{x-y} + \frac{x-y}{x+y}\right) \div \left(\frac{x^2+y^2}{x^2-y^2} - \frac{x^2-y^2}{x^2+y^2}\right).$$

## 4. Solve the equations

$$(i.) \frac{2a}{a+x} - \frac{2b}{b+x} = \frac{a-b}{a+b}.$$

$$(ii.) x^2 - 4y = y^2 + 4x = 21.$$

5. If  $\alpha$  and  $\beta$  are the roots of the quadratic equation  $ax^2 + bx + c = 0$ ; prove that  $\alpha + \beta = -b/a$  and  $\alpha\beta = c/a$ .

6. One of the roots of the equation  $ax^2 + bx + c = 0$  is double one of the roots of  $cx^2 + bx + a = 0$ ; show that either  $2a = c$ , or  $(2a + c)^2 = 2b^2$ .

7. In a regular pentagon  $ABCDE$  the straight lines  $AC$ ,  $BE$  intersect in  $F$ ; show that  $BE$  and  $-BF$  are the roots of the quadratic equation  $x^2 = ax + a^2$  where  $a$  is the length of a side of the pentagon.

8. Prove that  $\frac{a+c}{b+c}$  is greater or less than  $\frac{a}{b}$  according as  $b$  is greater or less than  $a$ , where  $a$ ,  $b$ ,  $c$  are positive quantities.

## B.

9. Show that, if a straight line  $AB$  be bisected at the point  $C$  and produced to the point  $D$ , the squares on  $AD$ ,  $DB$  are together double of the squares on  $AC$ ,  $CD$ .

The straight line  $AB$  is trisected at the points  $C$  and  $D$  and produced to the point  $E$ ; show that the difference of the squares on  $AE$ ,  $BE$  is three times the difference of the squares on  $CE$ ,  $DE$ .

10. Prove that the opposite angles of any quadrilateral figure inscribed in a circle are together equal to two right angles.

The quadrilateral  $ABCD$  is inscribed in a circle and two of its opposite sides  $AB$  and  $CD$  are parallel; show that  $AC$  is equal to  $BD$ .

11. Show that, if a straight line be drawn parallel to one of the sides of a triangle, it cuts the other sides, or those sides produced, proportionally.

Through a point  $O$  in the base  $BC$  of an isosceles triangle  $ABC$  a straight line  $POQ$  is drawn meeting the sides  $AB$ ,  $AC$  in  $P$  and  $Q$  respectively, and such that  $PO$  is equal to  $OQ$ ; show that  $BP$  is equal to  $CQ$ .

12. Prove that, if a straight line stand at right angles to each of two straight lines at their point of intersection, it is at right angles to the plane which passes through them, that is, to the plane in which they are.

Calculate the perpendicular distance between two opposite edges of a regular tetrahedron, the length of each edge being one foot.

### C.

13. Find to two places of decimals the number of seconds in the angle subtended at the centre of a circle by an arc of it whose length is one-ten-thousandth of the radius. [Assume  $\pi=3.1416$ .]

14. Prove that

$$(1 + \tan \theta)^2 - (1 - \tan \theta)^2 = 2 \sin \theta \cos \theta \{1 + \tan \theta\}^2 + (1 - \tan \theta)^2\}.$$

15. Prove that, in any triangle, the sides are proportional to the sines of the opposite angles.

16. The sides of a triangle are 13, 14, 15; find its area.

### SECOND PAPER.

THURSDAY, 5th October 1899.—12 NOON to 2 P.M.

### A.

1. A money changer buys francs at the rate of 10 francs for 7s. 11d., and sells them at the rate of 252 francs for £10. How much money must pass through his hands in order that he may gain £40?

2. Simplify  $\left[x + \frac{1}{x}\right]^2 - \left[y + \frac{1}{y}\right]^2 - \left[xy - \frac{1}{xy}\right] \left[\frac{x}{y} - \frac{y}{x}\right]$ .

3. Resolve into factors  $abx^3 + (ac - b^2)x^2 + c^2$   
and  $x^4 + 6x^2z - 4y^2 + 9z^2$ .

4. Find the square root of :—

$$(x+y)^4 - 2(x^2+y^2)(x+y)^2 + 2(x^4+y^4),$$

and determine the numerical quantity  $a$  so that

$$16x^4 - 24x^3 + ax^2 - 24x + 16$$

may be a complete square.

5. Solve the equations :—

$$(i) \frac{20}{8-x} + \frac{21}{6-x} = 11.$$

$$(ii) \left. \begin{aligned} 3x^2 - 4xy &= 7 \\ 3xy - 4y^2 &= 5 \end{aligned} \right\}.$$

6. Five years ago  $A$  was four times as old as  $B$ ; fifteen years hence  $A$  will be twice as old as  $B$ . Find their present ages.

7. If  $a, b, c, d$  be in continued proportion, prove that

$$(a^2 + b^2)(c^2 + d^2) = (b^2 + c^2)^2.$$

## B.

8. If a straight line touch a circle, and from the point of contact a straight line be drawn meeting the circle, the angles which this line makes with the line touching the circle are respectively equal to the angles which are in the alternate segments of the circle.

Tangents are drawn to a circle from an external point. Show that the angle between them is equal to twice the angle contained by the chord joining the point of contact, and a diameter drawn from either of its extremities.

9. About a given circle describe a triangle equiangular to a given triangle.

Given the vertical angle and the segments of a base of a triangle made by the inscribed circle, construct it.

10. Equal triangles which have one angle of the one equal to one angle of the other have their sides about the equal angles reciprocally proportional.

Construct an isosceles triangle equal in area to a given scalene triangle, and having a common angle.

11. Two straight lines which are each of them parallel to the same straight line, and not in the same plane with it, are parallel to one another.

The squares described on the diagonals of any parallelepiped are together equal to the sum of the squares described on the edges.

### C.

12. Solve the equation

$$\sin x + \sqrt{3} \cos x = 2.$$

13. Establish the formula

$$\cos A(1 - \tan 2A \tan A) = \cos 3A(1 + \tan 2A \tan A).$$

14. From the vertex  $A$  of the triangle  $ABC$ ,  $AD$  is drawn perpendicular to the base  $BC$ ,  $D$  falling between  $B$  and  $C$ ; if  $BD$ ,  $DC$  and  $AD$  be 2, 3 and 6 inches respectively show that the angle  $BAC$  is  $45^\circ$ .

15.  $a$ ,  $\beta$  and  $\gamma$  are the perpendiculars from the angles  $A$ ,  $B$ ,  $C$ , of a triangle on the opposite sides, show that

$$\begin{aligned} a \sin A + b \sin B + c \sin C \\ = 2[a \cos A + \beta \cos B + \gamma \cos C]. \end{aligned}$$

### FIRST PAPER.

THURSDAY, 29th March 1900.—9 to 11 A.M.

### A.

1. A man holds £10,000  $2\frac{3}{4}$  per cent. consols, which he sells at  $106\frac{1}{2}$ , and invests the proceeds part in a 3 per cent. corporation stock at 107, and the remainder in a  $3\frac{1}{2}$  per cent. corporation stock at 124; how much of each stock does he buy, his income being increased by £25?

2. State the Law of Distribution for Multiplication and Division.

Show that

$$(a^2 + b^2 + c^2)(x^2 + y^2 + z^2) - (ax + by + cz)^2 = (bx - cy)^2 + (cx - az)^2 + (ay - bx)^2.$$

3. Express as a single fraction  $\frac{a-b}{a+b} + \frac{b-c}{b+c} + \frac{c-a}{c+a}$ .

4. Solve the equations

$$(i) \sqrt{a-x} + \sqrt{b+x} = \sqrt{2(a+b)}.$$

$$(ii) 5x^2 + 16xy + 13y^2 - 16x - 24y = 9$$

$$x + 2y = 4.$$

5. The roots of the quadratic equation  $ax^2 + bx + c = 0$  are  $\alpha$  and  $\beta$ ; express  $\alpha^3 + \beta^3$  in terms of  $a, b, c$ .

6. When is an integral function of  $x, y, z$  said to be symmetric with respect to  $x, y, z$ ?

Find a symmetric function of  $x, y, z$ , of the second degree, which shall vanish when  $x=1, y=1, z=1$ , and have the value 1 when  $x=1, y=2, z=-3$ .

7. The hypotenuse of a right-angled triangle is 169, and the perpendicular from the right angle on it is 60; find the sides of the triangle.

8. Prove that, if  $\frac{a}{b} > \frac{c}{d}$ , then  $\frac{a}{b} > \frac{ma+nc}{mb+nd} > \frac{c}{d}$ ,

where all the quantities are positive.

## B.

9. Prove that, in every triangle the square on the side subtending an acute angle, is less than the sum of the squares on the sides containing that angle, by twice the rectangle contained by either of these sides, and the projection on it of the other.

If in the triangle  $ABC$

$$AB^2 = BC^2 + CA^2 - BC \cdot CA$$

find the magnitude of the angle  $ACB$ .



10. Prove that the angles in the same segment of a circle are equal to one another.

Two circles intersect in the points  $A$  and  $B$ , and through  $B$  a straight line is drawn, meeting the circles again in  $P$  and  $Q$ ; shew that the locus of the centre of the circle circumscribing the triangle  $APQ$  is a circle, which passes through the centres of the given circles.

11. Show how to find a mean proportional between two given straight lines.

The base  $BC$  of a triangle  $ABC$  is divided at  $D$  so that  $BD$  is a mean proportional between  $BC$  and  $DC$ , and through  $D$  a line is drawn parallel to  $CA$  to meet  $BA$  at  $E$ : show that the triangles  $BDE$ ,  $ADC$  are equal in area.

12. Show how to draw a perpendicular to a given plane from a given point without it.

The fixed points  $A$ ,  $B$  are joined to a point  $P$  in a given plane,  $A$ ,  $B$  being on the same side of the plane; find the position of  $P$  when  $AP+PB$  is least.

### C.

13. Find the number of radians in the angle  $2^\circ 48' 45''$ .

14. Solve the equation  $\tan x + \cot x = 2$ .

15. Prove that in any triangle  $b \cos C + c \cos B = a$  where  $a$ ,  $b$ ,  $c$  are the lengths of the sides, and  $A$ ,  $B$ ,  $C$  the angles opposite these sides respectively.

16. If  $a$ ,  $b$ ,  $c$  and  $A$ ,  $B$ ,  $C$  denote the sides and angles of a triangle, and if another triangle be constructed having its sides equal to  $c$ ,  $(a+b) \sin \frac{C}{2}$ ,  $(a-b) \cos \frac{C}{2}$ , show that the new triangle is right-angled.

## SECOND PAPER.

THURSDAY, 29th March 1900.—12 NOON TO 2 P.M.

## A.

1. The weight of a Roman denarius is 60 grains, and it contains  $\frac{29}{30}$ ths of pure silver. Find the value of 333 Roman denarii when the value of 480 grains of standard silver is 5s. 2d., given that the proportion of pure silver in standard silver is  $\frac{37}{40}$ ths. The value of the base metal in both cases is to be regarded as negligible.

2. Show that the greatest common measure of two numbers is also the greatest common measure of any divisor, and the corresponding dividend made use of in finding the greatest common measure of the two numbers by the ordinary method.

Reduce to lowest terms—

$$\frac{a^4 + a^3b - ab^3 - b^4}{a^4 - a^3b - ab^3 + b^4}.$$

3. Reduce to its simplest form—

$$\left[ \frac{x+2y}{x+y} + \frac{x}{y} \right] \div \left[ \frac{x+2y}{y} - \frac{x}{x+y} \right].$$

4. Express each of the following expressions as the product of two factors:—

$$(1) x^2 - 6x - 9a^2 - 6a + 8; (2) a^4 + x^4.$$

5. Solve the equations:—

$$(1) \frac{x}{5} + \frac{y}{7} + \frac{z}{8} = \frac{x}{2} - \frac{y}{4} + \frac{z}{4} = \frac{x}{5} + \frac{y}{2} - \frac{z}{2} = 1.$$

$$(2) 9x^2 - 9x = 10.$$

$$(3) \left. \begin{aligned} \frac{1}{x} + \frac{1}{y} &= a \\ \frac{1}{y} + \frac{1}{z} &= b \\ \frac{1}{z} + \frac{1}{x} &= c \end{aligned} \right\}.$$

6. A cyclist starts for a ride at 9 A.M.: he can go 10 miles an hour, and intends to be back at 1 P.M. Owing to a puncture he has to walk the last part of the way at 4 miles an hour, and reaches home at 2.30 P.M. When did the puncture occur?

7. If  $a, b, c, d$  are in continued proportion, show that—

$$(b-c)^2 + (c-a)^2 + (d-b)^2 = (a-d)^2.$$

## B.

8. If a straight line fall upon two parallel straight lines, it makes the alternate angles equal to one another.

If the angle  $A$  of a triangle  $ABC$ , and also the adjacent exterior angle be bisected by lines of which the former meets the base  $BC$  in  $D$ , and the latter the base produced in  $E$ , then a straight line drawn through  $C$ , parallel to  $AB$ , and terminated by  $AD$ , produced, and  $EA$ , is bisected in  $C$ .

9. The angle at the centre of a circle is double of the angle at the circumference upon the same base.

$AOB, COD$  are two chords of a circle intersecting in  $O$  inside the circle; show that the angles subtended by the Arcs  $AC, BD$  at the centre of the circle are together double of  $AOB$ .

10. The rectangle contained by the diagonals of a quadrilateral figure inscribed in a circle is equal to the sum of the rectangles contained by its opposite sides.

If  $BA', CA'$  are drawn perpendicular to the sides  $AB, AC$  of a triangle  $ABC$  respectively, and meet in  $A'$ , show that

$$BC \cdot AA' = AC \cdot A'B + AB \cdot A'C.$$

11. Every solid angle is contained by plane angles which are together less than four right angles.

If the three vertical angles of a tetrahedron be right angles, and if each of the edges that pass through the vertex be one foot in length, find to two places of decimals the number of square feet in the base.

## C.

12. Simplify  $\cos A + \cos (120^\circ - A) + \cos (120^\circ + A)$ .

13. Prove that—

$$\frac{(\sec \theta - \tan \theta)^2 - 1}{(\sec \theta + \tan \theta)^2 - 1} = \frac{\sin \theta - 1}{\sin \theta + 1}.$$

14. Explain geometrically the ambiguous case in the solution of plane triangles.

If  $a, b, A$  are given, show that when there are two solutions the sum of the areas of the triangles is  $\frac{1}{2} b^2 \sin 2A$ .

15. In any triangle show that—

$$\frac{b^2 - c^2}{\tan A} + \frac{c^2 - a^2}{\tan B} + \frac{a^2 - b^2}{\tan C} = 0.$$

## LOWER STANDARD.

MONDAY, 2nd October 1899.—2 to 5 P.M.

*Candidates may obtain FULL marks by doing about two-thirds of this paper.*

*But the Examiners may reject a candidate who shows exceptional weakness in any of the sections A, B, C.*

## A.

1. Express £13 + 42s. as a decimal of two guineas.

2. Simplify  $3\frac{1}{16} + 4\frac{5}{11} - 2\frac{1}{10}$  and express the result as a decimal.

3. A rod of brickwork 14 in. thick costs £12; find the cost of a brick wall 9 in. thick, 121 yds. long and 7 ft. high. [A rod of brickwork is  $272\frac{1}{4}$  square feet.]

4. A man buys 60 bicycles for £600, 25 of which are slightly damaged. He sells each of the 25 damaged ones at three-fifths of the price at which he sells a sound one, and makes altogether 40 per cent. on his outlay; at what price does he sell a sound bicycle?

5. Find the sum of money, which, laid out for one year and

three months at  $3\frac{3}{4}$  per cent. per annum simple interest, will amount to £571, 14s. 8d.

6. Show that if a number is divisible by 3 the sum of its digits is also divisible by 3.

### B.

7. Simplify the following, arranging the result according to powers of  $x$ :—

$$(x-1)(x^3-4x^2+2x+8)+(x+1)(3x^3-x^2-x-7)-(4x^3-2x^2+x+2).$$

8. Express as a single rational fraction at its lowest terms

$$\frac{x^2-1}{(x+1)^2} + \frac{x^2-5x+6}{x^2-4x+4} + \frac{1}{x+1}.$$

9. Find the H.C.F. of  $x^4-18x^2+3x+20$  and  $x^3+14x+15$ .

10. Resolve into factors:—

$$(i) 16x^2-25a^2.$$

$$(ii) a+a^2x-x-ax^2.$$

$$(iii) 15x^2+16x-15.$$

11. Solve the equations:—

$$(i) (a+x)(b-x)=(2a-x)(2b+x).$$

$$(ii) 4x+3y=10x-5y=5.$$

$$(iii) (2x+5)(3x+7)=1.$$

12. A train passes a bicycle in 4 seconds and a post in 3 seconds. The bicycle is going at the rate of 15 miles an hour; find the length of the train.

13. Define  $a^n$ ,  $n$  being a positive integer, and prove that  $\frac{a^m}{a^n} = a^{m-n}$ , where  $m$  and  $n$  are positive integers and  $m$  is greater than  $n$ .

### C.

14. Prove that the opposite sides and angles of a parallelogram are equal to one another, and that the diagonal bisects the parallelogram.

The diagonals of a quadrilateral figure bisect each other; show that the figure is a parallelogram.

15. If the square described on one of the sides of a triangle is equal to the squares described on the other two sides, prove that the angle contained by these two sides is a right angle.

In a right-angled triangle  $ABC$  a perpendicular  $BD$  is drawn from  $B$  to the hypotenuse  $AC$ ; find the areas of the triangles  $ABD$ ,  $BCD$  where  $AB$ ,  $BC$  are 4 and 3 feet respectively.

16. A straight line  $AB$  is bisected at the point  $C$  and produced to the point  $D$ ; show that the rectangle  $AD$ ,  $DB$  together with the square on  $BC$  is equal to the square on  $CD$ .

Construct a rectangle which shall be equal to the difference of two given squares, and such that the difference of two adjacent sides shall be double the side of the lesser square.

17. Show that, if a straight line drawn through the centre of a circle bisect a straight line in it which does not pass through the centre, it cuts at right angles; and if it cuts it at right angles it bisects it.

The middle point of one of the sides of a quadrilateral inscribed in a circle is fixed; find the loci of the middle points of the two adjacent sides. Is there a determinate locus for the middle point of the fourth side?

18. Show how to draw a straight line from a given point to touch a given circle.

Show that two tangents can be drawn to a circle from an external point  $P$ , and that the chord joining the points of contact is bisected by the straight line joining  $P$  to the centre of the circle.

MONDAY, 26th March 1900.—2 to 5 o'clock.

### A.

1. Express £·21 + ·632s. + ·004d. as a decimal of £1, 3s. 4d.



2. Simplify  $\frac{4\frac{1}{5} + 5\frac{1}{6} - 3\frac{2}{15}}{1\frac{5}{9} + 2\frac{1}{10}}$  and express the result as a decimal.
3. Find the cost of 15 cwt. 2 qrs. 8 lb. at £3, 13s. 6d. a ton.
4. A farmer buys 100 sheep at 35s. each, and sells them afterwards in two lots of 30 and 70 respectively, getting for each of the 30 five-sixths of the price he gets for each of the 70 ; find the prices at which he sells each, his profit being 14 per cent. on his outlay.
5. A man holds a certain amount of a  $3\frac{3}{4}$  per cent. stock and receives £8, 2s.  $1\frac{1}{2}$ d. as his dividend, less income tax at 8d. in the pound. How much stock does he hold ?
6. State the rule for multiplying one fraction by another, and justify it by means of a concrete example or otherwise.

### B.

7. Prove that  $(x^3 + x^2 + x + 1)^2 + (x^3 - x^2 + x - 1)^2 = 2(x^2 + 1)^3$ .
8. Express as a single fraction at its lowest terms—  

$$\frac{2x-3}{x^2-2x+3} - \frac{3(x-1)}{x^2-1} - \frac{5(x-1)^2}{(x^2-1)^2}.$$
9. Find the H.C.F. of  $4x^4 + 12x^3 - x^2 - 27x - 18$  and  $2x^4 + x^3 - 11x^2 - 4x + 12$ .
10. Resolve into their simplest factors :—  
 (i)  $9x^2 - 25y^2$ .  
 (ii)  $ax^2 - x + 2a^2x - 2a$ .  
 (iii)  $a^4 - 10a^2b^2 + 9b^4$ .
11. Solve the equations :—  
 (i)  $(2a - bx)(2b + ax) = (a + bx)(b - ax)$ .  
 (ii)  $5x + 7y = 7x - 5y = 111$ .  
 (iii)  $(4x + 13)(3x + 7) + 2 = 0$ .
12. Three men and two boys can do a piece of work in 7 days, and two men and three boys can do the same piece of work in 8 days, and a man receives £1 a week ; how much should a boy get ?

13. Prove that  $a^m \times b^m = (a \times b)^m$  where  $m$  is a positive integer. Reduce to its simplest form  $(2ab^2)^2 \times (-3bc^2)^3 \div (6a^2c)^2$ .

### C.

14. Prove that triangles on equal bases and between the same parallels are equal.

Two triangles have two sides of the one equal to two sides of the other, and the angles contained by these sides are supplementary; show that the triangles are equal in area.

15. Prove that in any right-angled triangle, the square which is described on the side subtending the right angle is equal to the squares described on the sides which contain the right angle.

A rectangular field contains 4860 square yards and its sides are in the ratio 5 : 12; find the length of a diagonal.

16. A straight line  $AB$  is bisected at the point  $C$ , and divided unequally at the point  $D$ ; show that the rectangle  $AD, BD$  together with the square on  $CD$  is equal to the square on  $CB$ .

Divide a given straight line into two parts such that the rectangle contained by them shall be the greatest possible.

17. Two circles touch one another internally; show that the straight line joining their centres passes through the point of contact.

The centres of two circles which touch at a point  $R$  are  $A$  and  $B$ ,  $PAP'$ ,  $QBQ'$ , are parallel diameters of the circles; show that  $PQR$  or  $PQ'R$  is a straight line.

18. Define a tangent to a circle, and prove from your definition that the tangent is perpendicular to the radius drawn through the point of contact.

A parallelogram circumscribes a circle; show that the points of contact divide the sides into two parts, the rectangle contained by them being equal to the square on the radius of the circle.

FRENCH.—FIRST PAPER.

TUESDAY, 3rd October 1899.—3 to 4.30 P.M.

Translate :—

(a) Modern languages are supposed to be useful for conversation. They are, however, very rarely studied or practised to the degree necessary for that use. The foreigner may be able to order his dinner at his hotel and ascertain when the train starts, but in cultivated society he only pretends to be able to follow what is said. His impressions about the talk that is going on around him are a succession of misunderstandings. He sits silent and smiling, and he endeavours to look as if he were not outside and in the dark; but he *is* in the dark, or, worse still, surrounded by deceptive glimpses. The belief that modern languages are easy, although erroneous, is against them, the truth being that pupils do not go far enough in these languages to become aware of the real difficulties. They think that French is easy, not knowing that French boys, specially drilled and disciplined in their own tongue, have to be wary to avoid pitfalls.

- (b) 1. If you mean to keep as well as possible, the less you think about your health the better.  
2. Your crying and moaning will only make matters worse.  
3. Do you believe it possible to get anybody to believe such a story?  
4. With pulling and pushing he succeeded at last in opening the door.  
5. He had no sooner entered the house than he was told what had happened.

## SECOND PAPER.

THURSDAY, 5th October 1899.—3 to 5 P.M.

## I. Translate :—

(a) Telle fut la condition de l'homme naissant ; telle fut la vie d'un animal borné d'abord aux pures sensations, et profitant à peine des dons que lui offrait la nature, loin de songer à lui rien arracher. Mais il se présenta bientôt des difficultés ; il fallut apprendre à les vaincre : la hauteur des arbres qui l'empêchait d'atteindre à leurs fruits, la concurrence des animaux qui cherchaient à s'en nourrir, la férocité de ceux qui en voulaient à sa propre vie, tout l'obligea de s'appliquer aux exercices du corps ; il fallut se rendre agile, vite à la course, vigoureux au combat. Les armes naturelles, qui sont les branches d'arbres et les pierres, se trouvèrent bientôt sous sa main. Il apprit à surmonter les obstacles de la nature, à combattre au besoin les autres animaux, à disputer sa subsistance aux autres hommes mêmes, ou à se dédommager de ce qu'il fallait céder au plus fort. A mesure que le genre humain s'étendit, les peines se multiplièrent avec les hommes. La différence des terrains, des climats, des saisons, put les forcer à en mettre dans leurs manières de vivre. Des années stériles, des hivers longs et rudes, des étés brûlants, qui consomment tout, exigèrent d'eux une nouvelle industrie. Le tonnerre, un volcan, ou quelque heureux hasard leur fit connaître le feu, nouvelle ressource contre la rigueur de l'hiver ; ils apprirent à conserver cet élément, puis à le reproduire, et enfin à en préparer les viandes qu'auparavant ils dévoraient crues.

J. J. ROUSSEAU.

(b) Sais-tu pourquoi mes vers sont lus dans les provinces,  
 Sont recherchés du peuple et reçus chez les princes ?  
 Ce n'est pas que leurs sons, agréables, nombreux,  
 Soient toujours à l'oreille également heureux ;  
 Qu'en plus d'un lieu le sens n'y gêne la mesure,

Et qu'un mot quelquefois n'y brave la césure :  
 Mais c'est qu'en eux le vrai, du mensonge vainqueur,  
 Partout se montre aux yeux et va saisir le cœur ;  
 Que le bien et le mal y sont prisés au juste ;  
 Que jamais un faquin n'y tint un rang auguste,  
 Et que mon cœur, toujours conduisant mon esprit,  
 Ne dit rien aux lecteurs qu'à soi-même il n'ait dit.  
 Ma pensée au grand jour partout s'offre et s'expose ;  
 Et mon vers, bien ou mal, dit toujours quelque chose.

BOILEAU.

## II. GRAMMAR.

1. State the cases where the simple negative *ne* is used. Illustrate by short sentences.

2. (a) When does the French language use the present tense where the English language uses the perfect? Illustrate.

(b) Distinguish between: *il aurait dû le faire*; *il lui aurait fallu le faire*; *il aurait fallu le faire*.

3. Translate into English, with short notes:—

Il n'est pas venu, il sera malade.

Il ne saurait faire cela.

Vous saurez, Monsieur, que je suis né à Paris.

Se pourrait-il qu'il se soit trompé? Je m'en doute bien.

4. *Quelque heureux hasard leur fit connaître le feu* (extract (a)). Examine the question whether *leur* belongs to *faire* or to *connaître*.

Compare this sentence with the following analogous expressions: *je ne lui connais que peu d'amis*; *vous lui avez fait dire une sottise*; "*tui lui verras subir la mort la plus terrible*." Give also the English translation of these sentences.

## III. PHILOLOGY AND LITERATURE.

(Only ONE question to be answered.)

1. Trace the historical development of the negatives: *ne—rien*,

*ne—personne*. Are *rien* and *personne* alone ever used with a positive or negative meaning? Illustrate.

2. The historical development of the Latin genders in the French language.

3. Compare in a general way the characters of Molière's plays with those of Racine's or Corneille's.

4. The influence of Louis XIV. and his court on the French literature of the seventeenth century.

5. Analyse any two of the following characters: Harpagon; Frosine; Monsieur Jourdain; Madame Jourdain; Alceste; Philinte; Chimène; Donna Urrique (l'infante); Horace (fils); Curiace; Burrhus; Narcisse.

#### FIRST PAPER.

TUESDAY, 27th March 1900.—3 to 4.30 P.M.

Translate into French:—

(a) The celebrated King of Prussia occurs to me as a capital instance of the decisive character, and there occurs to me at the same time one of the anecdotes related of him. Intending to make in the night an important movement in his camp, which was in sight of the enemy, he gave orders that by eight o'clock all the lights in the camp should be put out, on the pain of death. The moment that the time was passed, he walked out himself to see whether all was dark. He found a light in the tent of a Captain Zieten, which he entered just as that officer was folding up a letter. Zieten knew him, and instantly fell on his knees to entreat his mercy. The king asked to whom he had been writing; he said it was a letter to his wife. The king coolly ordered him to rise and write one line more, which he would dictate. This line was to inform his wife without any explanation that by such an hour the next day he would be a dead man.



- (b) 1. Many strange things have happened since we saw each other.  
2. Sooner or later you will repent it.  
3. He was robbed of his watch on his way home.  
4. I like walking better than riding.  
5. Mind your business and not mine.

SECOND PAPER.

THURSDAY, 29th March 1900.—3 to 5 P.M.

I. Translate into English :—

(a) A quatre lieues de Blois, à une heure de la Loire, dans une petite vallée fort basse, entre des marais fangeux et un bois de grands chênes, loin de toutes les routes, on rencontre tout à coup un château royal, ou plutôt magique. On dirait que contraint par quelque lampe mystérieuse, un génie de l'Orient l'a enlevé pendant une des mille nuits, et l'a dérobé aux pays du soleil pour le cacher dans ceux du brouillard avec les amours d'un beau prince. Ce palais est enfoui comme un trésor ; mais à ses dômes bleus, à ses élégants minarets, arrondis sur de larges murs ou élancés dans l'air, à ses longues terrasses qui dominant les bois, à ses flèches légères que le vent balance, à ses croissants entrelacés partout sur les colonnades, on se croirait dans les royaumes de Bagdad ou de Cachemire, si les murs noircis, leur tapis de mousse et de lierre, et la couleur pâle et mélancolique du ciel n'attestaient un pays pluvieux.

- (b) On dit que le lion, qui s'abreuve de sang,  
Quand il trouve en chemin un cadavre gisant,  
Après avoir flairé, d'une avide narine,  
S'il ne reste plus d'âme au fond de la poitrine,  
Repousse avec dédain le corps inanimé,  
Et, réservant pour mieux son courroux affamé,  
Cherche ailleurs une proie, où sa dent assouvie

Sous l'ardente douleur fasse frémir la vie,  
 Et déchire une chair dont le tressaillement  
 Prouve qu'elle a senti chaque déchirement.  
 Tarquin, le roi superbe, est le lion,—de sorte  
 Qu'étant lui le lion, je suis la bête morte,  
 Et que Tarquin-lion, quand il m'eut bien tourné,  
 Ne trouvant nulle part une âme, a pardonné.  
 Il a, par Jupiter! d'autres gibiers à suivre.  
 Je ne vaux pas la mort, c'est pourquoi je peux vivre.

## II. GRAMMAR.

1. Compose short sentences illustrating the meaning of *demi*, *moitié*, *tiers*, *centaine*.

2. Write the third person plural of the present indicative and of the present conditional of *acquérir*, *savoir*, *maudire*, *boire*.

3. Distinguish between *autre* and *autrui*, *quelconque* and *quiconque*, *chaque* and *chacun*, *que* and *quoi*, with illustrative sentences.

4. Mention four conjunctions or conjunctive phrases *not* governing the subjunctive mood. Form one sentence with each conjunction.

5. Translate into French :—

(a) She had come before me.

(b) They have not spoken to each other.

(c) They have sent you three novels; how many have you read?

Account for the spelling of the participles.

## III. PHILOLOGY AND LITERATURE.

(Only ONE question to be attempted.)

1. Write a short sketch of the life and works of Regnard, or of Montesquieu, or of Diderot.

2. Give an appreciation of any work or part of a work by Voltaire, Marivaux, or Bernardin de Saint-Pierre that you may have read.

3. Give the etymology of any *ten* of the following words, accounting for the circumflex accent: *ône, île, aimât, mir, sûr, chaîne, même, âge, goût, impôt, âpre, âme.*

4. Describe fully the formation of the French future and conditional. Can any reason be given for the disappearance of the Latin future?

# GERMAN.—FIRST PAPER.

WEDNESDAY, 4th October 1899.—3 to 4.30 P.M.

(Candidates may use either English or German script.)

Translate:—

## *Frederic the Great.*

(a) Considered as an administrator, Frederic had undoubtedly many titles to praise. Order was strictly maintained throughout his dominions. Property was secure. A great liberty of speaking and of writing was allowed. Confident in the irresistible strength derived from a great army, the king looked down on malcontents with a wise disdain, and gave little encouragement to spies. When he was told of the disaffection of one of his subjects, he merely asked: "How many thousand men can he bring into the field?" He once saw a crowd staring at something on a wall. He rode up and found that the object of curiosity was a bitter satire against himself. The paper had been posted up so high that it was not easy to read it. Frederic ordered his attendants to take it down and put it lower. "My people and I," he said, "have come to an agreement which satisfies us both. They are to say what they please, and I am to do what I please."

(b) (1) I want a servant whom I can trust.

(2) Though he succeeds in everything he undertakes, he is not content.

(3) I must and will be obeyed; come here at once!

(4) I wonder what he is thinking of and waiting for.

(5) He is afraid of being told to go home.

## SECOND PAPER.

FRIDAY, 6th October 1899.—9 to 11 A.M.

### I. Translate:—

(a) Die litterarische Epoche, in der ich geboren bin, entwickelte sich aus der vorhergehenden durch Widerspruch. Deutschland, so lange von auswärtigen Völkern überschwemmt, von andern Nationen durchdrungen, in gelehrtten und diplomatischen Verhandlungen an Fremde Sprachen gewiesen, konnte seine eigene unmöglich ausbilden. Es drangen sich ihr zu so manchen neuen Begriffen auch unzählige fremde Wörter nötiger- und unnötigerweise mit auf, und auch für schon bekannte Gegenstände ward man veranlaßt, sich ausländischer Ausdrücke und Wendungen zu bedienen. Der Deutsche, seit beinahe zwei Jahrhunderten in einem unglücklichen, tumultuarijchen Zustande verwildert, begab sich bei den Franzosen in die Schule, um lebensartig zu werden, und bei den Römern, um sich würdig auszudrücken. Dies sollte aber auch in der Muttersprache geschehen; da denn die unmittelbare Anwendung jener Idiome und deren Halbverdeutschung sowohl den Welt- als Geschäftsstil lächerlich machte. Überdies faßte man die Gleichnisreden der südlichen Sprachen unmäßig auf und bediente sich derselben höchst übertrieben. Ebenso zog man den vornehmen Anstand der fürstengleichen römischen Bürger auf deutsche kleinstädtische Gelehrtenverhältnisse herüber und war eben nirgends, am wenigsten bei sich zu Hause.—GOETHE.

### (b) Trost der Nacht.

Es heilt die Nacht des Tages Wunden,  
Wenn, mit der Sterne buntem Schein  
Das königliche Haupt umwunden,  
Sie still und mächtig tritt herein.

Die milden, leisen Hauche kommen,  
Der Farben gresle Pracht erblaßt;  
In weicher Linie ruht verschwommen  
Des scharfen Backenfelsen Last.

So legt die Nacht mit Muttergüte  
Sich um die Seele schmerzenvoll:  
Es läutert still sich im Gemüte  
Zur Wehmut jeder bittre Groß.

Die Thränen, die vergessen schliefen,  
Nun strömen sie in mächt'gem Lauf:  
Es steigt aus wunden Herzenstiefen  
Ein rettungahnend Beten auf.

## II. GRAMMAR.

1. Translate the following sentences, and give the necessary explanation as to the meaning of the underlined adverbs:  
(a) Sie haben ihn wohl nicht gesehen? doch! (b) Sie mögen es ihm zehnmal sagen, er thut es doch nicht. (c) Er ist schon ziemlich bei Jahren. Das ist schon wahr, aber man sieht es ihm nicht an.

2. Translate: Er ist nicht dumm, sondern träge. Er ist zwar nicht dumm, aber er ist träge. Explain the use of *sondern* and *aber* in these two sentences, and give other two sentences in illustration of your meaning.

3. Distinguish between:—

- (a) Er läßt sich wie ein Gott verehren.  
Er läßt sich wie einen Gott verehren.
- (b) Lügen and belügen. Form sentences.
- (c) Man sah aber genauer zu.  
Sah man aber genauer zu.
- (d) Kennen and wissen (Engl. *to know*). Form sentences.
- (e) Er stellte sich vor ihn.  
Er stellte sich ihm vor.

4. When is *wo* used as a relative pronoun, and *da* as a demonstrative? Give examples.

### III. PHILOLOGY AND LITERATURE.

*(Only ONE question to be attempted.)*

1. Explain philologically the different declensions of German adjectives.

2. Distinguish between : (*a*) *brauchen*, *gebrauchen*, *verbrauchen* ; (*b*) *hängen* and *hängen* ; (*c*) *erschrecken* (strong) and *erschrecken* (weak). From what verbs are the following substantives formed : *Grust*, *Schlacht*, *Gift*? Explain the formation of these last words, and give the English meaning.

3. Which of the prescribed authors show reaction against French influence? In what way does this reaction show itself?

4. Describe either : (*a*) two of the principal personages in any work of one of the prescribed authors ; or (*b*) give a summary of two of Bürger's ballads or of two of Klopstock's odes.

### GERMAN.—FIRST PAPER.

WEDNESDAY, 28th March 1900.—3 to 4.30 P.M.

*(Candidates may use either English or German script.)*

Translate into German :—

(*a*) After the battle of Jena, Queen Louisa of Prussia fled in great haste with her two sons to the eastern frontier of the country. One day a wheel of her carriage broke suddenly in the open country. Her attendants tried to repair the damage as best they could ; and she herself sat down in the meantime on the edge of the road-ditch. To while away the time she asked the young princes to gather some corn-flowers, of which there were a great many in the adjoining fields. While she was engaged in winding a wreath of them, she bethought herself of the misfortune of her people, and the dark future of her



family ; and tear upon tear fell from her eyes, and sparkled like dew-drops on the lovely blue flowers. In his later years, the Emperor William, the younger of the two princes, once said : " Whenever I see a corn-flower, it reminds me of that day, and of my noble and beautiful mother, in her deep sorrow ; and this is the reason why I love that flower above all others."

(b) (1) Young people should be civil to everybody.

(2) It is a fact not to be denied, that no man has any claim to perfection.

(3) We have obtained peace by making great sacrifices.

(4) I have nothing against your going there.

(5) We desired our friends to come in and take tea with us.

## SECOND PAPER.

FRIDAY, 30th March 1900.—9 to 11 A.M.

### I. Translate into English :—

(a) Marius Werk schien seinen Bewunderern keineswegs vollendet. Schwerer als die Barbaren lastete auf dem Lande die elende Regierung ; ihm dem ersten Manne Roms, dem Lieblinge des Volkes, dem Haupt der Opposition kam es zu, Rom zum zweitenmal zu retten. Zwar war ihm, dem Bauern und Soldaten, das hauptstädtische politische Treiben fremd und unbequem : er sprach so schlecht wie er gut commandirte und bewies den Lanzen und Schwertern der Feinde gegenüber eine weit festere Haltung als gegen die klatschende und zischende Menge ; aber auf seine Neigungen kam wenig an. Hoffnungen binden. Seine militärische und politische Stellung war von der Art, daß, wenn er mit seiner ruhmreichen Vergangenheit nicht brechen, die Erwartung seiner Partei, ja der Nation, nicht täuschen, seiner eigenen Gewissenspflicht nicht untreu werden wollte, er der Mißverwaltung der öffentlichen Angelegenheiten steuern und dem Restaurationsregiment ein Ende machen mußte ; und wenn er nur die inneren Eigenschaften eines Volks-

hauptes besaß, so konnte er dessen, was zum Volksführer ihn abging, allerdings entbehren.

(b) Verschieden ist der Sterblichen Bestreben,  
Und ihre Sitten mancherlei,  
Doch eine That wird ewig leben,  
Genug, daß sie vortrefflich sei.  
Zucht und Belehrung lenkt der Jugend  
Bildsamen Herzen früh zur Tugend.

• Wenn Scham und Weisheit sich vereinen.  
Sieht man die Grazien erscheinen  
Und Sittlichkeit, die fein entscheidet,  
Was ehrbar ist und eitel kleidet —  
Das gibt den hohen Ruhm des Weisen,  
Der nimmer altert mit dem Greisen.

Groß ist's, Der Tugend nachzustreben.  
Das Weib dient ihr im stillen Leben  
Und in der Liebe sanftem Schooß;  
Doch in des Mannes Thaten malen  
Sich prangend ihre tausend Strahlen,  
Da macht sie Städt' und Länder groß.

## II. GRAMMAR.

1. In how many different ways can the imperative "let us . . ." be translated into German? Illustrate your answer by examples.

2. Give three cases—with examples—when in German the definite article is used and no article in English, and two cases—with examples—where the indefinite article is used in English and no article in German.

3. Name the prepositions used with the following adjectives and verbs: bange, froh, stolz, sich freuen, sich sehnen.

4. Write the third person singular of the present indicative

and the imperfect subjunctive of *verbieten*, *sich befinden*, *abweichen*, *nachdenken*, *aushalten*.

### III. PHILOLOGY AND LITERATURE.

*(Only ONE question to be attempted.)*

1. Explain historically :—

(a) The change of the stem vowels in *ich laufe*, *du läufst* ; *Berg* and *Gebirge* ; *fallen* and *fällen*.

(b) The absence of the inflective *t* in *er will*.

2. Give the derivation and meaning of any five of the following : *Geschäft*, *Schlüssel*, *Glut*, *Hieb*, *Zucht*, *Schritt*, *Kaufbold*.

3. Give a brief summary either of one of Schiller's or one of Göthe's dramas, pointing out some features that are characteristic of the author.

4. State what you know of either Arndt's or Körner's works.

### ITALIAN—FIRST PAPER.

FRIDAY, 29th September 1899.—12 NOON to 1.30 P.M.

Translate :—

(a) An old friend, who was formerly my schoolfellow, came to town last week with his family for the winter, and yesterday morning sent me word his wife expected me to dinner. I am, as it were, at home at that house, and every member of it knows me for their well-wisher. I cannot, indeed, express the pleasure it is to be met by the children with so much joy as I am when I go thither ; the boys and girls strive who shall come first when they think it is I that am knocking at the door, and that child which loses the race to me, runs back again to tell the father it is Mr. Bickerstaff. This day I was led in by a pretty girl that we all thought must have forgot me, for the family has been out of town these two years.

- (b) (1) He said that nobody could make him believe such a story.  
(2) When he saw him coming, he went to meet him.  
(3) In his trouble he asked me for advice.  
(4) I must and will be obeyed! he cried. Come here at once!  
(5) He has to be told everything twice.

## SECOND PAPER.

FRIDAY, 29th September 1899.—3 to 5 P.M.

## I. Translate:—

(a) Giselberto, dopo la partita di Lodovico, con quelle che aveva, assediò il conte Immo in un suo castello, sperando che, levatosi costui dinanzi, tutta la Lotteringham gli restasse quieta ed in pace. Ma il conte, che molto più si valeva della astuzia che delle forze, senza voler venire alle mani, temporeggiava il più che e' poteva: tempestando però tutto il giorno, e facendo mille molestie alle cose di Giselberto. Il quale, imbizzarrito contro di lui, voleva pure al tutto estirparlo, e, se altrimenti non poteva, per essere il luogo fortissimo, e munito di gran vantaggio, ottenerlo almanco per fame. Della qual cosa accortosi il conte, attendeva con varie astuzie a ingrassare il castello delle vettovaglie et grasse inimiche. Ed intra l' altre, avendo una volta fatto condurre il duca una gran quantità di porci pel servizio del suo esercito: Immo, vedutigli per la campagna alle spalle de' suoi nemici, fatto pigliare uno de' suoi porci, lo fece agitare e battere in su la porta del castello: di maniera che gridando altissimamente quello animale, secondo il costume suo, gli altri che lo sentirono, di lontano, anzi correndo, volando come saette, a dispetto de' guardiani e di tutti i soldati, forando fra le gambe degli uomini e de' cavalli, e traboccando o mandando sottosopra ciò che si opponeva alla furia loro, se ne

vennero nel castello, senza restarne di fuori pur uno. Ed il conte, allegro di siffatta provvisione, riserrata la porta, a grande agio li fece uccidere, e serbarli poi ai bisogni.

(b) *Al Conte Vittorio Alfieri.*

Tanta già di coturni, altero ingegno,  
Sovra l'Italo Pindo orma tu stampi,  
Che andrai, se te non vince o lode o sdegno,  
Lugni dell' arte a spaziar fra i campi.  
Come dal cupo, ove gli affetti han regno,  
Trai del vero e del grande accesi lampi:  
E le poste a' tuoi colpi anime segno  
Pien d' inusato ardir scuoti ed avvampi!  
Perchè dell' estro ai generosi passi  
Fan ceppo i carmi? E dove il pensier tuona  
Non risponde la voce amica e franca?  
Osa! Contendi! E di tua man vedrassi  
Cinger l' Italia omai quella corona  
Che al suo crin glorioso unica manca.

## II. GRAMMAR.

1. How is the passive expressed in Italian? Form sentences.
2. Give examples of the infinitive in Italian being used—

- (a) As a noun,
- (b) Without a preposition,
- (c) With *di*,
- (d) With *a*,
- (e) With *da*.

3. When do you translate *must*, *to be obliged*, by—

- (a) *dovere*,
- (b) *bisognare*,
- (c) *avere a*, *avere da*,
- (d) *toccare a*.

Form short sentences.

4. Explain the respective use of the imperfect and past definite tenses. Illustrate by sentences.

### III. PHILOLOGY AND LITERATURE.

*(Only ONE question to be attempted.)*

1. Explain philologically the different formations of the plural of Italian substantives.
2. Give the origin of the different Italian tenses.
3. Say what you know of Alfieri.
4. The influence of French literature on Italian literature during the eighteenth century.

### DYNAMICS.

FRIDAY, 6th October 1899.—1 to 4 P.M.

*(Candidates may obtain FULL marks by doing about two-thirds of this paper.)*

1. The measure of a certain velocity in feet per second is  $V$ : what is it in miles per hour?

Two trains, each 300 feet long, are moving on parallel lines towards each other with velocities of 25 and 35 miles per hour respectively. Find the time that elapses from the instant when they meet till they have completely cleared each other.

2. Prove the formula  $s = ut + \frac{1}{2}ft^2$  for uniformly accelerated rectilinear motion, explaining the meaning of the symbols involved.

A stone is thrown vertically upwards with a velocity of 161 feet per second. Two seconds later a second stone is thrown after the first with a velocity of 225·4 feet per second. Find when and where they will meet.  $[g = 32\cdot2.]$

3. Deduce the polygon of forces from the parallelogram of forces.

The sides  $AD$  and  $BC$  of the quadrilateral  $ABCD$  are



bisected in  $E$  and  $F$  respectively : prove that if two forces acting at a point are represented in magnitude and direction by  $AB$  and  $DC$ , their resultant will be represented in magnitude and direction by twice  $EF$ .

4. Determine the resultant of any number of parallel forces in one plane.

The horizontal roadway of a bridge weighing 8 tons, is 12 yards long, and rests on similar supports at its two ends. What pressure is exerted on each of its supports when a cart weighing 2 tons is one quarter of the way across ?

5. Find the magnitude of the horizontal force that can just push a weight of 40 lb. up a smooth inclined plane, which makes an angle of  $45^\circ$  with the horizon.

If the plane is rough, and the coefficient of friction is  $\frac{1}{\sqrt{2}}$ , what will be the magnitude of the force ?

6. Find the position of the centre of gravity of a thin uniform triangular plate.

The diagonals  $AC$  and  $BD$  of the quadrilateral  $ABCD$  intersect in  $O$ , and the triangle  $ADC$  is twice the triangle  $ABC$ . Prove that if  $E$  and  $F$  be the middle point of  $AC$  and  $OD$ , the centre of gravity of the quadrilateral will be at  $G$  in  $EF$ , where  $EG = \frac{1}{3} EF$ .

7. State and explain or illustrate Newton's Second Law of Motion.

A weight of 10 tons, moving along a line of rails at a rate of 9 miles per hour, is by the action of a constant resistance reduced in 5 minutes to a speed of 7 miles per hour. Find the amount of the resistance.

8. Two masses  $m, m'$  are connected by a light inextensible string which passes over a smooth pulley ; find the acceleration of the masses and the tension of the string.

Two strings pass over a smooth pulley ; on one side they are

attached to masses of 4 and 5 lb. respectively, and on the other to a single mass of 6 lb. Find the tensions of the strings and the acceleration of the system.

9. Explain the terms foot-pound and kilogrammetre. Give the numerical relation between the two.

Find in ergs the potential energy of a mass of 5 kilograms raised to a height of 200 metres above the ground.

10. A particle slides down a smooth inclined plane with an acceleration which is one-fifth of the acceleration of the particle when falling freely under gravity; find the ratio of the height to the length of the plane.

If the particle has a mass of 12 grammes, find the kinetic energy acquired in descending 100 metres along the plane.

11. Describe the use of the specific gravity bottle. When filled with water it is counterpoised by 983 grains in addition to the counterpoise of the empty bottle—and by 773 grains when filled with alcohol. What is the specific gravity of alcohol?

12. Describe a complete stroke of the single-barrelled air-pump.

If the volume of the receiver is nine times that of the barrel, in how many strokes would the pressure in the receiver fall from 500 millimetres of mercury to 328·05?

13. Determine the vertical component of the pressure on any surface immersed in a heavy fluid.

Two small areas,  $A$  and  $B$ , are marked off on the wall of a reservoir:  $A$  is three times  $B$ , and  $B$  is 12 feet below  $A$ . If water is let into the reservoir, what will be the height of its surface above  $A$  if the pressure of the water on  $A$  is half that on  $B$ ?

14. State the principal of Archimedes regarding floating bodies.

A cubic foot of air at ordinary atmospheric pressure and temperature weighs 1·3 ounces: what will be the force tending

to raise a balloon filled with 5000 cubic feet of hydrogen, the density of which is 0.07 times that of air?

*N.B.*—Neglect the weight of the balloon.

FRIDAY, 30th March 1900.—1 to 4 P.M.

1. If the inch, the second and the ounce be taken as units of length, time and mass, what will be the units of velocity, of acceleration and of force?

If a train move from rest with uniform acceleration, and in five minutes is going sixty miles per hour, find the measure of its acceleration, when the foot and the second are the units of length and time.

2. Enunciate and prove the parallelogram of velocities.

A ship is sailing due east at 7 knots an hour, and another ship is sailing north-east at  $7\sqrt{2}$  knots per hour. Find the direction and magnitude of the velocity of the second ship relative to the first.

3. Explain what is meant by the moment of a force about a point, and show how it may be represented geometrically.

A circular hoop hanging vertically is suspended from a smooth hinge about which it can revolve freely in its own plane. A weight, equal to that of the hoop, is attached to the extremity of the diameter perpendicular to that drawn from the hinge: find the position of equilibrium.

4. If three forces which act in a plane keep a rigid body at rest, prove that their lines of action are either parallel, or that they meet in a point.

In both cases show that any two of the forces are inversely proportional to the perpendiculars drawn on their respective lines of action from any point in the line of action of the third.

5. If the inclination to the horizon of a rough plane, on which a body is placed, is slowly increased till the body just slides,

prove that the tangent of inclination of the plane is equal to the coefficient of friction.

A uniform ladder inclined at  $60^\circ$  to the horizon rests between a rough pavement and a smooth wall of a house: if the ladder is on the point of sliding, find the coefficient of friction between the foot of the ladder and the pavement.

6. If the masses and the positions of the centres of gravity of two portions of a body are given, show how to find the centre of gravity of the whole.

On a uniform cube, whose top is horizontal, rests a uniform sphere of the same material as the cube. The diameter of the sphere is the same length as an edge of the cube, and their centres of gravity are in the same vertical line. Find the position of their common centre of gravity.

7. A force of 100 dynes acts upon a mass of 25 grammes for 5 seconds; what is the velocity generated? How many poundals are there in London in the weight of one ounce, given that the value of  $g$  is  $32.19$ ?

8. Define "work," "kinetic energy," and "horse-power."

A train weighing 100 tons, moving at the rate of 3 miles in 5 minutes, has its velocity reduced to one-half of that amount. How many foot-pounds of work have been done?

9. Two perfectly elastic spheres impinge directly on one another with different velocities: find their velocities after impact.

One sphere strikes another sphere of five times its mass and at rest: after impact their velocities are numerically equal: find the index of elasticity (coefficient of restitution).

10. If a body fall from rest, prove that the sum of its kinetic and potential energies is constant throughout the motion.

Two bodies of masses  $m$  and  $m'$  are connected by a weightless string, which passes over a smooth pulley;  $m$  moves down from

rest under the action of gravity through a height  $h$ . Find the resulting velocity of the system.

11. Show that in a homogeneous heavy fluid the pressure at all points at the same depth is constant.

Show also that if the sides of the vessel containing the heavy fluid are not upright, the total vertical pressure on the base, supposed horizontal, is equal to the difference between the weight of the fluid and the resultant vertical pressure on the sides.

12. What are the conditions of equilibrium of a body floating freely ?

A cylinder 1 foot long, of which the density is 3, is surmounted by another cylinder of equal radius, of length 3 feet and density 1. Find the depth to which the whole will sink in a liquid of density 2.

13. What is the relation between the pressure, volume and temperature of a given weight of gas ?

A spherical bubble of air, rising through water, is 1 centimetre in diameter at a depth of 8 metres ; find its size on reaching the surface.

14. Describe the construction and use of the mercurial barometer.

When the true barometric height is 30 inches, that of a defective barometer is 29·8 inches. Determine what fraction of the space above the mercury the air would fill, if compressed to the pressure of the atmosphere outside.

## SANSKRIT.

TUESDAY, 20th March 1900.

I. Translate :—

NALOPĀKHYĀNAM, Canto V, s'lokas 37-45.

II. (a) Give nom. sing., nom. acc. plu. of *dhīmat*, *ātman*, *dhenu*, *madhu*, and of present and perfect part. of *sthū*.

- (b) Decline sing. of *aham* and plu. of *tam*.
- (c) Decline sing. of *sakhi*, *pums*, *path*, and plu. of *ap*.
- (d) Give plural of optat. ātm. of *jī* (1st), *pāj* (10th), and sing. of imperfect parasmai. of *rudh* (7th), *hu* (3rd).
- (e) Go through conjugational tenses parasmai. of *krī* (9th), *dvish* (2nd).
- (f) Give infin. and past part. pass. of *kram*, *gam*, *jan*, *dah*, *ṛt*, *muc*.
- (g) Give 3rd sing. and plu. perf. parasmai. of *nī*, *bhū*, *gam*, *dṛs'*, *cur*.
- (h) Give 3rd sing. and plu. aor. parasmai of *sic*, *nī*, *budh*.

III. State under what conditions ण becomes ण and ण becomes ण.

IV. Translate into Sanskrit :—

1. Then they all heard the great word of Nārada, and, even as they heard it, they said joyfully, “We also are going.”

2. The king, accompanied by his clarioteer, arrived at the lake adorned with lotuses, and, having descended from his car, walked in the neighbourhood of the forest.

3. The lord of earth, who protects his kingdom from his enemies, lives for ever in happiness.

4. Fools give room for anger in their minds, but not so wise men.

5. The servant asked the ascetics who they were and whence they came.

## G A E L I C

FOR PRELIMINARY EXAMINATION AND MACKINNON BURSARY.

MONDAY, 9th October 1899.—9 A.M. to 12 NOON.

1. Translate into English :—

Beatha 'n duine 's fìor nì luachmhor !

'S cha 'n i 'n uaigh dhorch ceann a réis ;



Ris an anam riamh cha dùbhradh,  
 “’S duslach thu ’s gu duslach théid.”  
 Cha ’n e sòlas ’s cha n’ e àmhghar  
 ’Tha mar ard-chrìch dhuinn fo ’n ghréin,  
 Ach bhi gnìomhach chum bhi fàgail  
 Astar ùr gach là ’n ar déigh.

Parse the *fourth* line of the above.

2. Translate into Gaelic:—

But who is that tall, gaunt individual who watches Dunbar’s efforts to amuse the King and Queen with a sort of sorrowful pity, as though he were grieved to behold the greatest genius of the Northland condescending to play the fool? Attired in the simple black robe of the scholar, with a skull-cap covering his bald head, he seems one with whom the years have dealt hardly. Presently attention is directed to him by Dunbar appealing to him, as “gude Maister Walter Kennedy,” to settle some playful dispute between the King and his “La ureate,” as James was wont to style the author of “The Golden Targe.”

3. Translate into English:—

Tha’n fhairge fa dheòidh làn bròin is mulaid,  
 Tha’ m bàta fo sheòl ach dhiùlt i siubhal,  
 Tha gàirich nan tonn le fuaim neo-shubhach,  
 Ag ràdh gu’n d’ fhalbh ’s nach till thu tuilleadh.  
 Cha chluinnear do cheòl ’s an dùn mu fheasgar,  
 ’S mac-talla nam mùr le mùirn ’ga fhreagairt,  
 Gach fleasgach is òigh, gun cheòl, gun bheadradh,  
 O’n thrìall thu uainn ’s nach till thu tuilleadh.

4. Who was “Caraid nan Gaidheal”? Give a short account of his Life and Work. Or,

5. Quote eight lines from the works of any noted Gaelic poet, and characterise his work and his place in Gaelic Literature.

6. Decline:—*an fear*, the man; *an saor*, the wright.

SATURDAY, 31st March 1900.—9 A.M. to 12 NOON.

1. Translate into English :—

Air do shocair, a Dhomhnuill ; bha thusa, gun teagamh, an Glascho, agus tha sgoil agad, agus comas labhairt ; ach 'n a dhèigh sin uile, feumaidh mi cur a t'aghaidh. Cha'n e cothrom an lagha urram na dùthcha ; ach laghannan cothromach, agus ceartas, air am faod tdaoine bochd ruigheachd gun òr gun airgiod ; agus is e so sochair a bha aca anns a' Ghaidhealtachd mu'm facas riamh Sgrìobhadair no Bàta-smùide 'n ar measg.

2. Combine the following prepositions with the personal pronouns (first, second, and third persons, singular and plural) :—*ann, le, air.*

3. Name the verbal nouns in the above passage ; and give the verbal nouns for the following verbs :—*caill, seas, squir, tog, tuig.*

4. Translate into English :—

Slàn leat, a Thearlaich, chaidh an iomairt le càch ;

Oighreachd do shinnsear, chaidh i dhìth ort gu bràth ;

Thug thu 'n oidheirp, 's bu treun i, le gaisgich mo ghràidh ;

'S bidh iomradh 'ur cruadail air a luaidh gu là bhràth.

5. Give the past and future tenses, Affirmative and Interrogative, of the following Irregular Verbs :—*faic, rach, abair, cluinn.*

6. Translate into Gaelic :—

“Now, Alexander,” says I, “follow me” : which he did with a great deal of courage. Upon which I rushed out of the wood and showed myself, with Alexander close at my foot. As soon as I perceived they saw me, I shouted as loud as I could, and bade Alexander do so too ; and running as fast as I could, I made towards the poor fellow, who was, as I said, lying on the shore, between the place where they sat and the sea.

# Additional Examination Papers for First Year Open Bursaries in Arts.

## ENGLISH.

FRIDAY, 29th September 1899.—9 to 12 o'clock.

[1 and 9 to be attempted by all. It will be better not to try more than FIVE of the others, and not to devote more than three-quarters of an hour to the Essay.]

1. Write an Essay on one of the following subjects:—

(a) What Chaucer did for English poetry.

(b) The beginnings of the English Essay.

(c) The literary character and influence of Tennyson.

2. Write short notes on the following books:—Malory's *Morte d'Arthur*, *Gorboduc*, Daniel's *Defence of Rhyme*, *Leviathan*, *The Rehearsal*, *Pamela*, *The Traveller*, *The Borough*.

3. Give a fuller account of one of the following: *The Vision of Piers Plowman*, *King Lear*, Bacon's *Essays*, *Samson Agonistes*, *Absalom and Achitophel*, *Rasselas*.

4. Write a short notice, literary and biographical, of two of the following:—Gavin Douglas, Sir Thomas Wyatt, Drayton, Herrick, Defoe, Bishop Berkeley, Cowper.

5. Explain the terms:—weak ending, rhyme royal, catalectic, bob and wheel, slur, poulterers' measure.

6. What dialects have at different times been most prominent in Anglo-Saxon and English literature, and which of them bore the principal part in the formation of modern literary English?

7. Who were the chief poets contemporary with Milton in his successive stages?

8. Mention, with a very few particulars in each case, the chief writers in English about the middle of the eighteenth century.

9. Translate, with notes where necessary :—

(a) Ða wearð breahm hæfen : beorȝ ymbstodan  
hwearfum wræcmæcȝas ; woð upastaȝ  
cearfulra cirm : cleopedon moniȝe  
feonda foresprecan, firenum ȝulpon.

(b) Me com to an scinende engel on ðam æfenne þe ic gewat,  
and lædde me to east-dæle, suwiende. Ða become wit to anre  
dene, seo wæs ormætliche deop and wid, and fornean on lenge  
ungeendod ; seo wæs weallende mid anðræcum ligum on anre  
sidan, on oðre sidan mid hagole and grimlicum cyle, blawende  
buton to-forlætennysse.

(c) And some hedde visages of Meselri ;  
And somme were lyk foul Maumetri.  
Moni wondres weore on hem seene  
Mo þen he coupe þenne deme.

(d) Damesele Conande and Wysse es garnere, scho sall gedyre  
and sembyll gude whete and oper gud cornnes to-gedir.

## L A T I N.

SATURDAY, 7th October 1899.—9 to 10.30 A.M.

1. Translate into Latin Prose :—

As soon as he appeared, accompanied by a crowd of indignant sympathisers, his drawn sword, covered like himself with blood, attracted the attention of the whole camp. When they asked him what was the matter, his voice was at first choked with tears. At length when the excitement of the crowd had calmed down, he told them the whole story exactly as it had occurred. Then, raising his hands to heaven, he made a vehement appeal to his comrades in arms. He implored them not to turn away from him as from the murderer of his child. He had held the life of his daughter dearer than his own as long as she was permitted to live in freedom and in honour ; but

when he saw her on the point of being carried off into servitude and disgrace, he had chosen rather to lose his child by death than by infamy. Nor would he ever have survived her death had he not possessed, in the support of his fellow-soldiers, a sure hope of avenging her.

2. Translate into English:—

[*The eve of Pharsalia ; Pompeius' dream.*]

At nox, felicis Magno pars ultima vitae,  
sollicitos vana decepit imagine somnos.  
nam Pompeiani visus sibi sede theatri  
innumeram effigiem Romanae cernere plebis,  
adtollique suum laetis ad sidera nomen  
vocibus, et plausu cuneos certare sonantes.  
qualis erat populi facies clamorque faventis,  
olim cum iuvenis primique aetate triumphi,  
post domitas gentes quas torrens ambit Hiberus,  
et quaecumque fugax Sertorius impulit arma,  
vespere pacato, pura venerabilis aequè  
quam currus ornante toga, plaudente senatu,  
sedit adhuc Romanus eques. seu fine bonorum  
anxia venturis ad tempora laeta refugit :  
sive per ambages solitas contraria visis  
vaticinata quies magni tulit omina planctus :  
seu vetito patrias ultra tibi cernere sedes  
sic Romam Fortuna dedit. ne rumpite somnos,  
castrorum vigiles, nullas tuba verberet aures.

G R E E K.

SATURDAY, 7th October 1899.—10.30 to 12 o'clock.

I. Translate:—

ἐκεῖνοι γὰρ οὐκ ἐν μὲν ταῖς παιδείαις πολλοὺς τοὺς ἐπιστατοῦντας  
εἶχον, ἐπειδὴ δ' εἰς ἄνδρας δοκιμασθεῖεν, ἐξῆν αὐτοῖς ποιεῖν ὅ τι

βουληθείεν, ἀλλ' ἐν ταύταις ταῖς ἀκμαῖς πλείονος ἐπιμελείας ἐτύγχανον ἢ παῖδες ὄντες. οὕτω γὰρ ἡμῶν οἱ πρόγονοι σφόδρα περὶ τὴν σωφροσύνην ἐσπούδαζον, ὥστε τὴν ἐξ Ἀρείου πάγον βουλὴν ἐπέστησαν ἐπιμελείσθαι τῆς εὐκοσμίας, ἧς οὐχ οἶόν τ' ἦν μετασχεῖν πλὴν τοῖς καλῶς γεγονόσι καὶ πολλὴν ἀρετὴν ἐν τῷ βίῳ καὶ σωφροσύνην ἐνδεδειγμένοις, ὥστ' εἰκότως αὐτὴν διενεγκεῖν τῶν ἐν τοῖς Ἑλλησι συνεδρίων.

σημείοις δ' ἂν τις χρῆσαιτο περὶ τῶν τότε καθεστώτων καὶ τοῖς ἐν τῷ παρόντι γιγνομένοις· ἔτι γὰρ καὶ νῦν ἀπάντων τῶν περὶ τὴν αἵρεσιν καὶ τὴν δοκιμασίαν κατημελημένων ἴδοιμεν ἂν τοὺς ἐν τοῖς ἄλλοις πράγμασιν οὐκ ἀνεκτοὺς ὄντας, ἐπειδὴν εἰς Ἀρείον πάγον ἀναβῶσιν, ὀκνοῦντας τῇ φύσει χρῆσθαι καὶ μᾶλλον τοῖς ἐκεῖ νομίμοις ἢ ταῖς αὐτῶν κακίαις ἐμμένοντας.

## II. For Greek Prose:—

The curiosity and impatience of my master were so great, that he spent many hours of his leisure to instruct me. He was most perplexed about my clothes, reasoning sometimes with himself whether they were part of my body; for I never pulled them off till the family were asleep, and got them on before they waked in the morning. My master was eager to learn whence I came; how I acquired those appearances of reason which I discovered in all my actions; and to know my story from my own mouth, which he hoped he should soon do, by the great proficiency I made in learning and pronouncing their words and sentences.

SWIFT.

## MATHEMATICS.

SATURDAY, 7th October 1899.—2 to 5 P.M.

1. Shew that the locus of a point, the ratio of the distances of which from two fixed points is constant, is a circle.

Given the lengths of the bisectors of the internal and external



angles at any vertex of a triangle, and also the ratio of the sides which meet at that vertex, to construct the triangle.

2. Prove the characteristic property of the nine-point circle of a triangle.

$P$  is the orthocentre of a triangle;  $D, E, F$  the middle points of the sides  $BC, CA, AD$ . If  $PD, PE, PF$  be produced to  $A', B', C'$  so that  $PD=DA', PE=EB', PF=FC'$ , shew that  $A'B'C'$  and  $ABC$  are congruent.

3. If  $D, E, F$  be three points on the sides  $BC, CA, AB$  of the triangle  $ABC$ , such that  $AD, BE, CF$  are concurrent, shew that with a certain convention regarding the signs of the position ratios—

$$\frac{BD}{CD} \cdot \frac{CE}{AE} \cdot \frac{AF}{BF} = -1.$$

Also state and prove a converse.

A circle meets the side  $BC$  of a triangle in  $D$  and  $D'$ ,  $CA$  in  $E$  and  $E'$ , and  $AB$  in  $F$  and  $F'$ . If  $AD, BE, CF$  be concurrent, shew that  $AD', BE', CF'$  are also concurrent: and state some important particular cases of this theorem.

4. A variable tangent to a circle cuts four fixed tangents in the points  $A, B, C, D$ , shew that the cross ratio  $(ABCD)$  is constant.

$CA, CB$  are two tangents to a circle whose points of contact are  $A$  and  $B$ .  $P$  is a point on the circle, and  $AP$  and  $BP$  meet  $CB$  and  $CA$  in  $Q$  and  $R$  respectively. If  $AR=x, BQ=y, CA=CB=a$ , and  $b$  be a certain constant, shew that

$$xy=b(x+y-a).$$

5. Shew that all the circles that cut two given non-intersecting circles orthogonally pass through two fixed points.

To construct a circle which shall cut two given circles orthogonally and touch a given straight line.

6. Prove that a circle in general inverts into a circle: and point out the exceptions.

Shew that the pole and polar theorem for a circle may be deduced by inversion from the theorem that the locus of the middle points of a system of concurrent chords of a circle is a circle.

7. Shew that the sum of any two facial angles of a trihedral solid angle is greater than the third.

Find the locus of a line (in space of three dimensions) which is equally inclined to two given intersecting lines, and passes through their intersection: and deduce the locus of the centre of a sphere which touches three given planes.

8. Prove that the volume of a pyramid on a triangular base is one-third the volume of a triangular prism on the same base and having the same altitude.

A plane cuts two of the three parallel lateral edges of a triangular prism in the ratios  $1:l$  and  $1:m$  respectively; in what ratio must it cut the third if it bisects the volume of the prism?

9. A watch-shaped buoy is made of two identical spherical segments which meet at right angles. How many cubic feet of air will the buoy contain if the radius of each of the spherical segments is 6 feet?

10. Prove the Binomial Theorem for a positive integral index.

Find the coefficient of  $xy$  in

$$(x+y+a)(x+y+b)(x+y+c)(x+y+d).$$

Distribute the product  $(x+y+z)(x^2+y^2+z^2)(yz+zx+xy)$  and arrange it as a sum of monotypic symmetric functions (such as  $\Sigma x^4y$ ).

11. Factorise the following as far as you can—

$$(i) \ x^5 + x^4 + x^3 + x^2 + x + 1.$$

$$(ii) \ a + (a+b)x + (a+b+c)x^2 + (b+c)x^3 + cx^4.$$

$$(iii) \ \Sigma x^4yz - \Sigma x^3y^3.$$

12. State the rule for finding a rationalising factor for

$\sqrt{p} + \sqrt{q} + \sqrt{r} + \sqrt{s} + \dots$ ; and by means of your rule, or otherwise, rationalise the equation  $\sqrt{X} + \sqrt{Y} + \sqrt{Z} + \sqrt{U} = 0$ .

Express  $1/(\sqrt[3]{x} + \sqrt{x}) + 1/(\sqrt[3]{x} - \sqrt{x})$  as a sum of simple irrational terms.

If  $\omega = (-1 + \sqrt{3}i)/2$ , where  $i$  is the imaginary unit, prove that  $1/(a\omega^2 + b\omega + c) + 1/(b\omega^2 + c\omega + a) + 1/(c\omega^2 + a\omega + b) = 0$ .

**13.** Illustrate graphically the process of solving the system  $ax + by + c = 0$ ,  $a'x + b'y + c' = 0$ ; and discuss in particular the exceptional cases which arise when  $ab' - a'b = 0$ .

A rectangular field is uniformly planted with trees. A rectangular patch in the centre of the field is cut down, leaving a rectangular fringe which is 4 trees deep on each of two parallel sides and 3 trees deep on each of the remaining sides. It is now found that 100 trees are left. Find the numbers of trees in the sides of the field (two solutions).

Solve the following system of equations in  $x, y, z$  :—

$$b^2/(z+x) + c^2/(x+y) - a^2/(y+z) = x',$$

$$c^2/(x+y) + a^2/(y+z) - b^2/(z+x) = y',$$

$$a^2/(y+z) + b^2/(z+x) - c^2/(x+y) = z'.$$

**14.** Shew that the solutions of the system

$$x + y + z = a, \quad yz + zx + xy = b, \quad (y+z)(z+x)(x+y) = c$$

are found by giving as values to  $x, y, z$  any permutation of the three roots of the cubic  $(\xi^2 + b)(\xi - a) + c = 0$ .

Solve the system  $\sqrt{x^2 + xy} + \sqrt{y^2 + xy} = 35$ ,  $x^2 + y^2 = 337$ .

**15.** If two quadratic equations whose coefficients are real have one, and only one, root in common, prove that neither can have an imaginary root.

Shew that  $x^4 + ax^3 + bx^2 + ax + 1 = 0$  can be solved by means of quadratic equations; and find the necessary and sufficient restrictions upon  $a$  and  $b$  in order that all the roots may be real.

## HIGHER GEOMETRY.

FOR WELSH MATHEMATICAL BURSARIES AND KELLAND PRIZE.

MONDAY, 9th October 1899.—9 to 12 o'clock.

*Candidates are requested to note on their papers the Bursary or Bursaries for which they compete.*

1. Define the Image of a given figure in a straight line, and prove that a figure is congruent with its image.

$O$  is the orthocentre of a triangle  $ABC$ , and  $K, L, M$  its images in the sides. Shew that the triangle  $KLM$  has the same circum-circle as  $ABC$ .

Construct a triangle being given its orthocentre and the images of the orthocentre in two of the sides.

2. Prove Ptolemy's theorem connecting the sides and diagonals of a cyclic quadrilateral.

$ABCD$  is a cyclic quadrilateral whose sides are in geometric progression,  $AB$  being the least side.  $AC'$  is drawn parallel to  $BD$  meeting  $CB$  produced in  $C'$ . Shew that  $CC'$  is bisected at  $B$ .

3. Explain briefly how the Euclidean propositions on rectangles permit of the introduction of algebraic formulæ into geometry.

Shew that there are two points  $P$  on the line  $AB$  such that  $2AP^2 = 4BP^2 + AB^2$ . If  $P$  and  $P'$  are the points in question and  $M$  is the middle point of  $PP'$ , prove that  $B$  is the middle point of  $AM$ . Prove also that the square on  $PP'$  is six times the square on  $AB$ .

4. Define similar and similarly situated figures, and shew that by a rotation a figure already similar to a given figure may be rendered similarly situated to it.

Inscribe in a given triangle a triangle whose sides are parallel to three given directions.

A triangle is given in species, and one vertex is fixed, while

the others lie one on each of two given circles. Construct the triangle.

5.  $ABCD$  is a convex quadrilateral whose internal diagonals cut in  $O$ .  $P$  and  $Q$  are the extremities of the third diagonal and are joined to  $O$  cutting the sides in  $K, L, M, N$ . Shew that the product of the position ratios of  $K, L, M, N$ , with respect to  $A, B, C, D$ , is equal to unity. Shew also that the extremities of the third diagonal of  $KLMN$  are the points of intersection of the third diagonal of  $ABCD$  with the two internal diagonals.

6. Distinguish between two projective ranges of points, and two perspective ranges.

$ABCD$  and  $AB'C'D'$  are two sets of four collinear points,  $A$  being common to each set.  $BB'PQ$ ;  $CC'PR$ ;  $DD'QR$  are three other sets. Prove  $(ACBD)(CC'PR) = (AC'B'D')$ .

If two ranges be projective but not perspective, prove in any way that the joins of corresponding points determine by their intersection with any one of their number a range projective with the original ranges.

7. Prove that the tangent at any point on a parabola bisects the angle between the focal distance of the point and the perpendicular from it on the directrix.

Given of a parabola the focus and a tangent, find the locus of the extremity of the latus rectum.

8. Shew that the tangents from a point to a conic subtend equal angles at the focus.

$A$  is any point on a given straight line. Its chord of contact with respect to a given conic cuts the directrix in  $A'$ . Shew that the envelope of  $AA'$  is a conic.

9. Shew that the locus of the middle points of a system of parallel chords of a conic is a straight line.

$AB$  is any one of a system of parallel chords of an ellipse.  $P$  and  $Q$  divide it internally and externally in a given ratio  $\rho$ . Shew that  $P$  and  $Q$  trace out two conics, and that the area of

the original conic is a geometric mean between the areas of these two conics.

10. Shew that the sum of the faces of a polyhedral angle can never exceed four right angles.

Prove that the dihedral angle between two adjacent faces of a regular tetrahedron is supplementary to the corresponding angle for the regular octahedron.

11. Define the projection of a plane area upon a fixed plane, and prove that the ratio of the area to the area of its projection, is constant for all areas which lie in a given plane.

A right circular cylinder is cut by two planes in a circular section and in an elliptic section. Prove, by projection on the circle, the truth of the rectangle theorem for the ellipse for two secants to the ellipse through an arbitrary point but in fixed directions.

12. Define a ruled surface, and shew that such a surface is obtained by taking the lines in space that cut three fixed non-intersecting lines. Prove that no two generating lines of this surface can intersect.

Three non-intersecting, non-parallel, telegraph wires cross a straight road. Shew that points may be found in the road from which the three wires appear to cut at a common point.

## FRENCH.

MONDAY, 9th October 1899.—2 to 3.30 P.M.

I. Translate into English, explaining in a short commentary the more difficult passages:—

(a) Il sembleroit à cela que le Roi auroit aimé la grande noblesse et ne lui en vouloit pas éгалer d'autres; rien moins. L'éloignement qu'il avoit pris de celle des sentiments, et sa foiblesse pour ses ministres, qui haïssoient et rabaissoient, pour s'élever, tout ce qu'ils n'étoient pas et ne pouvoient pas être,



lui avoit donné le même éloignement pour la naissance distinguée. Il la craignoit autant que l'esprit; et si ces deux qualités se trouvoient unies dans un même sujet et qu'elles fussent connues, c'en étoit fait.

Ses ministres, ses généraux, ses maîtresses, ses courtisans s'aperçurent, bientôt après qu'il fut le maître, de son foible plutôt que de son goût pour la gloire. Ils le louèrent à l'envi et le gâtèrent. Les louanges, disons mieux, la flatterie lui plaisoit à tel point, que les plus grossières étoient bien reçues, les plus basses encore mieux savourées. Ce n'étoit que par là qu'on s'approchoit de lui, et ceux qu'il aimait n'en furent redevables qu'à heureusement rencontrer et à ne jamais se lasser en ce genre. C'est ce qui donna tant d'autorité à ses ministres, par les occasions continuelles qu'ils avoient de l'encenser, surtout de lui attribuer toutes choses, et de les avoir apprises de lui. La souplesse, la bassesse, l'air admirant, dépendant, rampant, plus que tout l'air de néant sinon par lui, étoient les uniques voies de lui plaire. Pour peu qu'on s'en écartât on n'y revenoit plus, et c'est ce qui acheva la ruine de Louvois. (SAINT SIMON.)

(b) Quand la lune se lève derrière les arbres, quand elle verse sa lumière frissonnante sur un fleuve qui coule, quand elle tombe à travers les branches sur le sable des allées, quand elle monte solitaire dans le ciel noir et vide, quand elle s'abaisse vers la mer, allongeant sur la surface onduleuse, et liquide une immense traînée de clarté, ne sommes-nous pas assaillis par tous les vers charmants qu'elle inspira aux grands rêveurs? Si nous allons, l'âme gaie, par la nuit, et si nous la voyons, toute ronde, ronde comme un œil jaune qui vous regarderait, perchée juste au-dessus d'un toit, l'immortelle ballade de Musset se met à chanter dans notre mémoire. (MAUPASSANT.)

II. Translate into French:—

His education had been entirely French. The long ascendancy

which Louis XIV. had enjoyed, and the eminent merit of the tragic and comic dramatists, of the satirists and of the preachers who had flourished under that magnificent prince, had made the French language predominant in Europe. Even in countries which had a national literature, and which could boast of names greater than those of Racine, of Molière, and of Massillon, in the country of Dante, in the country of Cervantes, in the country of Shakespeare and Milton, the intellectual fashions of Paris had been to a great extent adopted. Germany had not yet produced a single masterpiece of poetry or eloquence. In Germany, therefore, the French taste reigned without rival and without limit. Every youth of rank was taught to speak and write French. That he should speak and write his own tongue with politeness or even with accuracy and facility, was regarded as comparatively an unimportant object. Even Frederic William, with all his rugged Saxon prejudices, thought it necessary that his children should know French, and quite unnecessary that they should be well versed in German. Latin was positively interdicted.

## GERMAN.

MONDAY, 9th October 1899.—3.30 to 5 P.M.

### I. Translate into English :—

(a) Indem nun die neapolitanischen Streitkräfte von dem oberen Italien zurückwichen, geriet Piero in die größte Verlegenheit. Bei den erwähnten Unterhandlungen mit den Florentinern hatten die Franzosen zweierlei gefordert, einmal freien Durchzug durch das florentinische Gebiet und Lieferung von Lebensmitteln, sodann aber auch ein Ansehen. Beides war abgelehnt worden: das erste im Namen der Republik aus dem Grund, daß ihre geographische Lage ihr zur Pflicht mache, nach allen Seiten Rücksicht zu nehmen; das zweite durch den Factor des mediceischen Bankhauses in Lyon,

obwohl demselben sehr annehmbare Bedingungen dafür vorge-  
schlagen worden waren. Man bemerkte in Frankreich, daß daran  
niemand anders als Piero Medici selbst Schuld sein könne, dessen  
Verständniß mit Alfons man wohl kannte, und zeigte sich darüber  
nicht wenig entrüstet. Doch hat man, und zwar durch den geschäfts-  
kundigen und zuverlässigen Comines in Florenz erklären lassen,  
noch könne Alles einen guten Ausgang nehmen, wenn die Stadt auf  
die Seite des Königs trete; wofern Piero Medici das vermittele, so  
werde er bei König Karl in größere Gnade kommen, als in welcher  
sein Vater jemals beim verstorbenen König gewesen sei.

(b) Mitten in der ernstesten Berglandschaft zwischen schmalen,  
mageren, steinigen Wiesen und düsterem Nadelgehölze rauschen die  
spiegelhellen Bergbäche einher und mildern freundlich den öden  
Charakter des Thales. Diese Bäche kommen in der größten  
Mannigfaltigkeit vor; keiner gleicht dem andern, obwohl alle nur  
helles Wasser in steinigem Bette führen. Unter den tausend und  
abertausend Bergbächen ist fast keiner ohne Reiz; selbst jene wilden  
und verwüstenden Gewässer, welche die ganze Umgebung zu Schutt-  
betten umwandeln, während sie im heißen Sommer nur dünne  
Wasseräberchen durch ihre Steinfelder ziehen, sind doch in ihrer  
Bewegung oft so malerisch. Sie bilden mitten in den Geröllwüsten  
Seitenarme, einzelne Wasserspiegel und Inselchen, umströmen mit  
klaren, lebendigen Wellen diese mit Erlen und Weidenbüschen  
geschmückten Eilande, fassen sich dann rasch wieder zusammen und  
eilen weiter unten zwischen starken Wuhrungen dem fruchtbaren  
Thalgrunde zu. Unmutiger sind aber jene zahmeren Waldbäche  
mit natürlichen, festen Uferseiten, die ihre Vorräte gewöhnlich aus  
höheren Wasserbecken beziehen und darum in ihrer Strömung  
geregelter und gleichmäßiger erscheinen.

## II. Translate into German :—

For some days a storm of wind and rain had been stripping  
the leaves from the trees and gathering them in sodden heaps  
upon the ground. The minister looked out on the garden,

where many holy thoughts had visited him, and his heart sank like lead, for it was desolate, and of all its beauty there remained but one rose clinging to its stalk, drenched and faded. It seemed as if youth, with its flower of promise and hope, had been beaten down, and a sense of loneliness fell on his soul. He had no heart for work, and crept to bed broken and dispirited. During the night the rain ceased, and the north wind began to blow, which cleanses nature in every pore, and braces each true man for his battle. The morrow was one of those glorious days which herald winter, and as the minister tramped along the road, where the dry leaves crackled beneath his feet, and climbed to the moor with head on high, the despair of yesterday had vanished. The wind had ceased, and the glen lay at his feet, distinct in the cold, clear air, from the dark mass of pines that cloud its upper end to the swelling woods of oak and beech that cut it off from the great Strath. IAN MACLAREN.

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## Preliminary Examination Papers for Degrees in Medicine.

### ENGLISH.

SATURDAY, 30th September 1899.—9 A.M. to 12 NOON.

EIGHT, and not more than EIGHT, questions are to be answered. 1 and 2 must be answered, with either 3 or 4, and either 5 or 6. The remaining FOUR may be any questions not already answered.

1. Write an essay, from two to three pages long, on one of the following subjects:—

- (a) Thackeray.
- (b) Imperialism.
- (c) Oliver Cromwell.

2. Paraphrase:—

*Within King's College Chapel, Cambridge.*

Tax not the royal Saint with vain expense,  
 With ill-match'd aims the Architect who plann'd  
 (Albeit labouring for a scanty band  
 Of white-robed Scholars only) this immense  
 And glorious work of fine intelligence!  
 —Give all thou canst; high Heaven rejects the lore  
 Of nicely calculated less or more—  
 So deem'd the man who fashion'd for the sense  
 These lofty pillars, spread that branching roof  
 Self-poised, and scooped into ten thousand cells  
 Where light and shade repose, where music dwells  
 Lingerin—and wanders on as loth to die:  
 Like thoughts whose very sweetness yielded proof  
 That they were born for immortality.

3. Give some account of *four* of the following:—William the Conqueror, Becket, Robert Bruce, John Wyclif, Richard III., Act of Supremacy, Sir Francis Drake, Hampton Court Conference, Pym, Self-denying Ordinance, Act of Uniformity, the first Earl Shaftesbury, Claverhouse.

4. Give some account of *four* of the following:—Battle of Blenheim, South Sea Bubble, Battle of Culloden, Clive, Declaration of Independence, Peace of Amiens, Holy Alliance, Alabama Claims, Majuba Hill, “Laissez-faire Policy.”

5. Where, and for what noted, are any *six* of the following:—Kimberley, Cabul, Ludlow Castle, L'Ile du Diable, Canea, Aden, Harvard, the Atbara, Larissa, Buda-Pesth, Wei-Hai-Wei, Leyden, Klondyke?

6. Give some account of the colonial possessions of France. State where they are and what are their chief products.

7. Re-write, so as to correct or improve, the following sentences, giving reasons for any changes you make:—

- (a) I stand in Venice on the Bridge of Sighs  
A palace and a prison on each hand.
- (b) In returning thanks the chairman said he was always willing, though not always able, to do what he could for the good of Strathbogie.
- (c) Be quite sure that we shall lose no more time in returning than can be avoided.
- (d) "Amen," said Yeo, and many an honest voice joined in that honest compact, and kept it too like men.

8. Give a general analysis of the following passage, and parse the words in italics:—

Sir King, I closed mine eyelids, *lest* the gems  
Should blind my purpose, for I never saw,  
Nor shall see, here or elsewhere, till I die,  
Not though I live three lives of mortal men,  
So great a miracle as *yonder* hilt.

9. Derive *eight* of the following words:—starboard, demean, conspirator, forest, canopy, gipsy, tidings, gout, savage, smith, romance, recessionary.

10. Give the general rules for the order of words in an English sentence.

11. Give some account of *one* of the following works:—  
(a) Shakespeare's *Sonnets*, (b) Addison's *Essay on Sir Roger de Coverley*, (c) Byron's *English Bards and Scotch Reviewers*, (d) Carlyle's *Sartor Resartus*.

12. What is meant by each of the following phrases:—Taxation of Ground Rents, the Law of Copyright, the Condemnation of Dum-Dum Bullets, Proportional Representation?



SATURDAY, 24th March 1900.—9 A.M. to 12 NOON.

1. Write an essay, from two to three pages long, on one of the following subjects:—

- (a) William of Orange.
- (b) Knowledge is power.
- (c) Tennyson.

2. Paraphrase:—

*Hubert.* Here is your hand and seal for what I did.

*King John.* O, when the last account 'twixt heaven and earth

Is to be made, then shall this hand and seal

Witness against us to damnation!

How oft the sight of means to do ill-deeds

Makes deeds ill done! Hadst not thou been by,

A fellow by the hand of nature marked,

Quoted and sign'd to do a deed of shame,

This murder had not come into my mind:

But taking note of thy abhorr'd aspect,

Finding thee fit for bloody villainy,

Apt, liable to be employed in danger,

I faintly broke with thee of Arthur's death;

And thou, to be endeared to a king,

Made it no conscience to destroy a prince.

Hadst thou but shook thy head or made a pause

When I spoke darkly what I purposed,

Or turned an eye of doubt upon my face,

As bid me tell my tale in express words,

Deep shame had struck me dumb, made me break off;

And those thy fears might have wrought fears in me.

3. Give some account of *four* of the following:—Agricola, Bede, Stephen Langton, Chaucer, Prince Hal, "The King-maker," Sir Thomas More, Bacon, Bolingbroke, Hastings, the Younger Pitt, Lord Beaconsfield.

4. Give some account of *four* of the following :—Kingdom of Northumbria, Witenagemot, Becket's Tomb, Battle of Bannockburn, Pilgrimage of Grace, Elizabethan Navigators, Solemn League and Covenant, Instrument of Government, Gordon Riots, Siege of Gibraltar, Mutiny at the Nore, Peterloo, Dargai.

5. State where, and for what noted, are any *six* of the following :—Gosport, Auckland, Kingston, Victoria (town), Cairo, Upsala, Port Elizabeth, Malaga, Pondicherry, Yorktown, Iquique, Nagasaki, Rennes, Vancouver (town), Fashoda.

6. Give some account of recent competition amongst the Great Powers for the extension of their possessions abroad.

7. Re-write, so as to improve or correct, the following sentences, and give reasons for any change you may make :—

(a) A statute inflicting the punishment of death may and ought to be repealed, if it is in any way expedient.

(b) I never remember to have felt an event more deeply than his death.

(c) I am told that when he died the Cardinal at least spoke ten languages.

(d) Life in the town or country has its advantages and disadvantages.

8. Give a general analysis of the following passage, and parse the words in *italics* :—

If you be, *what* I think you, *some* sweet dream,

I *would* but ask you to fulfil yourself :

But if you be that Ida whom I knew,

I ask you *nothing* : *only*, if a dream,

Sweet dream, be perfect. I shall die to-night.

Stoop down and seem to kiss me *ere* I die.

9. Classify English verbs according to the construction they take, and write a sentence in illustration of each class.

10. Derive *eight* of the following words :—Colchester, benison,

husband, beleaguer, chivalry, quarry, blame, surgeon, ermine, dirge, verdigris, tawdry.

11. Give some account of *one* of the following works:—Chaucer's *Nonne Prestes Tale*; Milton's *Samson Agonistes*; Pope's *Rape of the Lock*; Wordsworth's *Ode on the Intimations of Immortality*; Tennyson's *Aylmer's Field*.

12. What is meant by each of the following phrases:—The Far-Eastern Question; extradition; lyddite shells; Imperial Federation; Nicaraguan Ship Canal?

### LATIN—GREEK—MATHEMATICS.

The Papers in Latin, Greek, and Mathematics are the same as the Lower Standard Papers in these subjects for Degrees in Arts and Science.

### FRENCH.

TUESDAY, 3rd October 1899.—3 to 6 P.M.

I. Translate into French:—

(a) Richard, who had never known fear, could speak as well as he could fight. He spoke out boldly before his enemies, and showed how false were the things which men said against him. Those who heard him were filled with admiration of his brave words, and with pity for his sufferings. The Emperor himself went to him and embraced him, and thereafter he treated him with great honour, as a king should be treated. Still he would not let him go, until a large sum of money was paid for his ransom, for he was a greedy man and loved money. It was very difficult to get so large a ransom together in England; and Richard's heart grew sad when he found how long he had still to wait. His brother John would have been glad if he had always remained in prison, but most of the English people were

true to Richard. At last the money was paid; and Richard returned to England, and was welcomed with great joy by his subjects.

- (b) 1. The more I look at it, the less I like it.  
2. Make haste, or you will miss the train.  
3. He will be sorry for what has happened.  
4. Is it late? It is half-past twelve.  
5. May you bring good news!

## II. Translate into English :—

1. Un soir de l'automne précédent, nous étions partis, Louise et moi, pour visiter les deux vaches qui passaient l'été aux chalets, à mi-côte de la montagne. Nous prîmes par les bois, jasant, folâtrant le long du sentier et nous arrêtant aux moindres choses qui se rencontraient. Dans une clairière, entre autres, nous fîmes crier l'écho; puis, à force d'entendre sa voix mystérieuse sortir des taillis, une espèce d'inquiétude nous gagna, et nous nous regardions en silence, comme si c'eût été une troisième personne avec nous dans le bois. Alors nous prîmes la fuite d'un commun mouvement, pour aller rire plus loin de notre frayeur.

2. Il y a deux choses particulièrement aimées de tous les vieux soldats : les fleurs et les enfants ! Longtemps obligées de regarder la terre comme un champ de bataille, et sevrées des paisibles plaisirs d'un sort abrité, ils semblent commencer la vie à l'âge où les autres la finissent. Les goûts des premières années, arrêtés chez eux par les rudes devoirs de la guerre, refleurissent tout à coup sous leurs cheveux blancs ; c'est comme une épargne de jeunesse dont ils touchent tardivement les arrérages. Puis, condamnés si longtemps à détruire, ils trouvent peut-être une secrète joie à créer et à voir renaître. Pour ces vieux ouvriers de la mort, protéger les frères germes de la vie a tout l'attrait de la nouveauté.

### III. GRAMMAR.

1. Write the first and third persons plural present subjunctive of:—*employer, recevoir, savoir, pouvoir, tenir, prendre*.

2. State when the English *I* has to be translated by *je*, when by *moi*, and the English *them* by *les, leur, eux, elles*. Form sentences in illustration.

3. Show by short sentences when *then* can be translated by *alors, ensuite, puis*, and *done*, and *yet* by *cependant* and *encore*.

4. Write the plural and meaning of *moulin à vent, timbre-poste*, and *passe-partout*. Give rules for the formation of the plural of compound nouns.

5. Mention the cases where the auxiliary *être* is to be used in the conjugation of French verbs.

TUESDAY, 27th March 1900.—3 to 6 P.M.

#### I. Translate into French:—

(a) A gentleman who had gone out to the seat of war on the Red Sea as a spectator, was very fond of telling stories of the wonderful things he had seen and heard. He was once staying at a country house in England, where he was telling his adventures. Some one asked him to describe the most remarkable thing in which he had taken part. The gentleman at once replied by saying that, on one occasion, he and his servant had walked rather far inland. They had come upon a company of fifty Arabs, and had made them run. This somewhat startled the company; but the gentleman added: "Of course there was no very great merit in that; for we ran and they ran after us."

(b) 1. You may expect an answer this day week.

2. When he dies, who will succeed him?

3. Let us go and see what they are about.

4. He was late because his watch was slow.

5. If I am not mistaken we have lost our way.

## II. Translate into English :—

(a) Dans une famille tous ont en vue l'avantage de tous, parce que tous s'aiment et que tous ont part au bien commun. Il n'est pas un de ses membres qui n'y contribue d'une manière diverse selon sa force, son intelligence et ses aptitudes particulières ; l'un fait ceci, l'autre cela ; mais l'action de chacun profite à tous, et l'action de tous profite à chacun. Qu'on ait peu ou beaucoup, on partage en frères ; nulles distinctions autour du foyer domestique. On n'y voit point ici la faim, à côté l'abondance. La coupe que Dieu remplit de ses dons passe de main en main, et le vieillard et le petit enfant, celui qui ne peut plus ou ne peut pas encore supporter la fatigue, et celui qui revient des champs le front baigné de sueur, y trempent également leurs lèvres.

(b) L'armée chrétienne s'avança dans une étroite vallée, entre deux montagnes brûlés par les feux du soleil. La route qu'elle suivait avait été creusée par les torrents ; la pluie des orages y avait accumulé des roches détachées des monts ; des amas de sable, des abîmes ouverts par la rapidité des eaux fermaient quelquefois le chemin. Dans ces passages difficiles, la moindre résistance des musulmans pouvait triompher de la foule des pèlerins, et s'ils ne rencontrèrent point alors l'ennemi, ils durent penser que Dieu lui-même leur livrait les avenues de la ville sainte.

## III. GRAMMAR.

1. Write the past participle and the third person singular of the past definite of *battre*, *recevoir*, *convaincre*, *prévoir*, *mouvoir*, *falloir*.

2. Write the following in the feminine singular : *le héros grec*, *s'il s'était trompé*, *il est sot et malin*, *il est tout étonné et tout confus*, *un dieu tout-puissant*, *un nouveau marié*.

3. Translate in full : *Tuesday, 27th March 1900, from 3 to 6 p.m.*

4. Give the second and third persons plural present indicative



of *lever*, *appeler* and *achever*, commenting on the change in the stem.

5. Distinguish between *valant* and *vaillant*, *savant* and *sachant*, *absous* and *absolu*.

## GERMAN.

WEDNESDAY, 4th October 1899.—3 to 6 P.M.

### I. Translate into English:—

(a) Heute früh um drei Uhr fuhr ich von Torbole weg, mit zwei Ruderern. Anfangs war der Wind günstig, daß sie die Segel brauchen konnten. Wir fuhren bei Limona vorbei, dessen Berggärten, terrassenweise angelegt und mit Citronenbäumen bepflanzt, ein reiches und reinliches Ansehen geben. Der ganze Garten besteht aus Reihen von weißen viereckigen Pfeilern, die in einer gewissen Entfernung von einander stehen, und stufenweise den Berg hinauf-rücken. Über diese Pfeiler sind starke Stangen gelegt, um im Winter die dazwischen gepflanzten Bäume zu decken. Das Be-trachten dieser angenehmen Gegenstände ward durch eine langsame Fahrt begünstigt, und so waren wir schon an Malsesine vorbei, als der Wind sich völlig umkehrte.

(b) Die beiden Männer hatten schweigend zugehört. Sonneck sprach auch jetzt nicht, aber man sah es, wie die Erzählung ihn erregt hatte. Reinhart stand noch immer mit verschränkten Armen am Fenster, ohne sich umzuwenden; da erhob sich drunten im Garten ein Lärm, der aber freudiger Natur zu sein schien, denn man hörte Hurrarufe. Bertram wurde aufmerksam. „Was giebt es denn da draußen? Sind die Jungen toll geworden?“ rief er und trat gleichfalls an das Fenster, wo er nun allerdings die Ursache ent-deckte. Im Garten stand ein riesiger Neger, der verschiedene Reiseeffecten trug, während hinter ihm ein Träger mit einem großen Koffer sichtbar wurde. Die drei Kinder hatten den Schwarzen abgefangen und gaben nun ihre Verwunderung und ihr Entzücken

über diesen neuen afrikanischen Besuch in der stürmischen Weise fund.

## II. Translate into German:—

1. Oliver Goldsmith was sent to a school, which was twenty miles from his father's house. When he went home for the holidays, a friend lent him a horse and gave him a guinea. Goldsmith, who was in his seventeenth year, was very proud of his horse and his money. He resolved that he would not go straight home, but would spend the night at an inn. He reached the small town of Ardagh, and asked which was the best house in the town. The man whom he asked was amused by his consequential air, and directed him, not to an inn, but to the best private house, which belonged to a Mr. Featherstone. Goldsmith rode up to the house, entered and sat down by the fire. Mr. Featherstone soon recognised his mistake, but he did not undeceive him, for he discovered that Goldsmith's father was an old friend of his.

2. (a) I remember hearing of it when a boy.
- (b) Whatever he may have done, you must forgive him.
- (c) My brother and yours are old acquaintances.
- (d) I have a German lesson every other day.
- (e) He has not been allowed to go out.

## III. GRAMMAR.

1. Form abstract nouns from any *six* of the following adjectives:—schön, heiß, finster, hoch, jung, alt, arm, traurig, reich, froh, fromm, frei, klug, böse.

2. Show by examples what cases are governed by the prepositions für, nächst, auf, während, zwischen, außerhalb.

3. Write out the present indicative singular of mögen, dürfen, wissen, müssen.

4. Give the German—in the nominative and genitive singular and nominative plural—for: the old castle; that high tree; our new church; red wine.

5. Distinguish between: die Bände — die Bänder; er vergißt — er vergießt; in dem Grabe — in dem Graben; als er kam — wenn er kam; er ging nach dem Doktor — er ging dem Doktor nach; er übersehte — er setzte über.

WEDNESDAY, 28th March 1900.—3 to 6 P.M.

**I. Translate into English:—**

(a) Kaiser Karl der Große führte seine Gäste gern auf die Jagd; denn die Jagd blieb ihm die liebste Erholung; der Jagdgrund, zu dem er am häufigsten zog, war der Ardennenwald. Stattlich war der Auszug der kaiserlichen Jagd, wie ihn Angilbert, der Freund und Sänger Karls, beschreibt. Wenn die erste Morgenröte auf die Berggipfel fiel, dann eilte die Schar der edlen Knaben vor das Schlafgemach des Königs und erwartete ihn auf der untersten Stufe. In der Stadt wurde es laut, die Menge tummelte sich auf dem Platz, die Herren riefen ihren Dienern. Roß wieherte gegen Roß. Das Leihpferd des Königs wurde an die Stufen geführt, Baum und Decke waren mit Gold geschmückt, stolz schüttelte es die Mähne und freute sich der Bergfahrt. Endlich trat Karl heraus; sein edles Haupt umschloß ein Goldreif, gewaltig war auch in der Jagdlust seine Haltung und Gebärde.

(b) Auf seiner Reise durch Schlesien speiste der König, nachdem er über Nacht in Goldberg geblieben war, am andern Tage in Hirschberg. Vor der Tafel wurden einige der angesehensten Kaufleute aus dem Gebirge zu ihm gerufen. Er unterhielt sich mit ihnen aufs gnädigste vom auswärtigen Handel nach Spanien, Nordamerika, Portugal, Italien und auch über den inländischen Leinwandhandel, und fragte endlich, ob sie noch etwas zu erwähnen hätten. Diese Gelegenheit ergriff der Kaufmann Lehmann aus Greifenberg, um dem König für das große Geschenk zum Wiederaufbau der abgebrannten Stadt zu danken. Aber wahrhaft königlich antwortete Friedrich: „Ihr habt gar nicht nötig mir deswegen zu danken, es

ist meine Schuldigkeit, meinen verunglückten Unterthanen wieder aufzuhelfen. Dafür bin ich da!"

## II. Translate into German:—

(a) All that day passed, but no robbers appeared. He thought how wise he had been to refuse a guard. The inn he reached at night was a very bad one, so bad that he could hardly obtain any food in it. He started the next morning without any breakfast, and rode till he came to a wretched little hut, built of mud. He took what he could find for himself and his horse, and gave the woman a dollar to pay for it; she had no change and went to a shop to ask for it. Soon she came back, telling him the people in the shop had said it was a bad one. He gave her a second, and she came back with the same story. The traveller began to think something was wrong; but he gave her a third and told her that he would not give her any more.

(b) If I had known this, I should not have come.

Which of the two brothers do you like best?

Tell me why you do not want to do what you are told!

As you have promised to write to him, you must keep your word.

He said that he would be very pleased to see you.

## III. GRAMMAR.

1. Give the gender and nominative plural of Graf, Gefängnis, Wort, Bett, Herz, Gebirge.

2. Write the second person singular of the present and imperfect indicative and the past participle of ausgeben, sich freuen, abschlagen, verbieten, fortziehen, vergessen.

3. What cases are governed by the following prepositions:—auf, durch, trotz, gegenüber, neben, nach. Form illustrative phrases.

4. Give the German for: once, twice, ten times, simple, ten-

fold, what o'clock is it? firstly, secondly, the eleventh, the twentieth, and the English for je zwei, drittehalb.

5. Give the comparative and superlative of *nah*, *hoch*, *viel*, *balb*, *edel*, *danfbar*.

## Papers for Ordinary Degree of M.A.

### I.—LANGUAGE AND LITERATURE.

#### LATIN.

##### FIRST PAPER.

TUESDAY, 3rd April 1900.—9 to 11 o'clock.

#### 1. Translate:—

*Hegio*. Illest abductus recta in phylacam, ut dignus est.  
 ego illis captivis aliis documentum dabo,  
 ne tale quisquam facinus incipere audeat.  
 quod apsq̄ue hoc esset, qui mihi hoc fecit palam,  
 usque offrenatum suis me ductarent dolis.  
 nunc certumst nulli post hac quicquam credere.  
 satis sum semel deceptus: speravi miser  
 ex servitute me exemisse filium.  
 ea spes elapsast. perdididi unum filium,  
 puerum quadrimum quem mihi servos surpuit,  
 neque eum servom umquam repperi neque filium.  
 maior potitus hostiumst. quod hoc est scelus:  
 quasi in orbitatem liberos produxerim.

#### 2. Translate:—

Incidunt multae saepe causae, quae conturbent animos utilitatis specie, non, cum hoc deliberatur, relinquendane sit honestas propter utilitatis magnitudinem—nam id quidem inprobum est—, sed illud, possitne id, quod utile videatur, fieri

non turpiter. cum Collatino collegae Brutus imperium abrogabat, poterat videri facere id iniuste; fuerat enim in regibus expellendis socius Bruti consiliorum et adiutor: cum autem consilium hoc principes cepissent, cognationem Superbi nomenque Tarquiniorum et memoriam regni esse tollendam, quod erat utile, patriae consulere, id erat ita honestum, ut etiam ipsi Collatino placere deberet. itaque utilitas valuit propter honestatem, sine qua ne utilitas quidem esse potuisset.

3. Translate, with short notes:—

non aliam ob culpam Baccho caper omnibus aris  
caeditur et veteres ineunt proscaenia ludi,  
praemiaque ingeniis pagos et compita circum  
Thesidae posuere, atque inter pocula laeti  
mollibus in pratis unctos saluere per utres.  
nec non Ausonii Troia gens missa coloni  
versibus incomptis ludunt risuque soluto,  
oraeque corticibus sumunt horrenda cavatis,  
et te, Bacche, vocant per carmina laeta, tibi  
oscilla ex alta suspendunt mollia pinu.

4. (i) Translate:—

quodsi bruma nives Albanis inlinet agris,  
ad mare descendet vates tuus et sibi parcat  
contractusque leget; te, dulcis amice, reviset  
cum Zephyris, si concedes, et hirundine prima.  
non quo more piris vesi Calaber iubet hospes  
tu me fecisti locupletem. 'vescere, sodes.'  
'iam satis est.' 'at tu quantum vis tolle.' 'benigne'  
'non invisa feres pueris munuscula parvis.'  
'tam teneor dono quam si dimittar onustus.'  
'ut libet: haec porcis hodie comedenda relinques.'

(ii) Translate and explain the following passages; and give the scansion of the first two lines in passages (b) and (c):—

(a) Parios ego primus iambos



ostendi Latio, numeros animosque secutus  
Archilochi.

- (b) hic unde vitam sumeret inscius  
pacem duello miscuit. O pudor!  
O magna Carthago, probrosis  
altior Italiae ruinis.

- (c) quaeque Aventinum tenet Algidumque  
quindecim Diana preces virorum  
curat.

5. (i) Translate:—

Atque illum in regressu sacra Samothracum visere niten tem  
obvii aquilones depulere. igitur adito Ilio quaeque ibi varietate  
fortuna et nostri origine veneranda, relegit Asiam adpellitque  
Colophona, ut Clarii Apollinis oraculo uteretur. non femina  
illic, ut apud Delphos, sed certis e familiis et ferme Mileto  
accitus sacerdos numerum modo consultantium et nomina audit:  
tum in specum degressus, hausta fontis arcani aqua, ignarus  
plerumque litterarum et carminum, edit responsa versibus com-  
positis super rebus quas quis mente concepit: et ferebatur  
Germanico per ambages, ut mos oraculis, maturum exitium  
cecuisse.

(ii) Translate, with brief historical notes:—

- (a) Miles in loco proelii Tiberium imperatorem salutavit.  
(b) Tiberius cultu habituque eius lenibus verbis per-  
stricto acerrime increpuit, quod contra instituta  
Augusti non sponte principis Alexandriam in-  
troisset.

6. Answer *any two* of the following:—

(a) What was the extent of the Roman dominions in the year  
300 B.C., and what were the chief additions which were made  
to them between 300 and 100 B.C.?

(b) Describe the formation of the First Triumvirate, its  
renewal in 56 B.C., and its dissolution.

(c) What were the chief powers and titles held by Augustus ? Discuss in particular the title “princeps” and the Emperor’s “tribunicia potestas.”

(d) Give some account of the “Lex Maiestatis” and of “delatio” under Tiberius, with special reference to cases which are mentioned in *Annals II*.

(e) Mention the chief foreign wars waged by the Romans between the battle of Actium and the death of Tiberius. Indicate briefly the result in each case.

7. Answer *any one* of the following :—

(a) How far was Plautus a mere translator of Greek originals ?

(b) Give some account of the composition of the *Georgics* : the purpose of the work, its sources, and the ideas by which it is inspired.

(c) What traits in the personal character of Horace are revealed in the first Book of the *Epistles* ?

(d) Give an outline of the philosophical question discussed in the third book of Cicero’s treatise *De officiis*, and some general account of his attitude in philosophy.

(e) Give a short account of *any two* of the following :—Ennius, Propertius, Lucan, Seneca (the younger).

## SECOND PAPER.

TUESDAY, 3rd April 1900.—11.30 to 1.30 o’clock.

1. For Prose Composition :—

“I therefore,” said he, “strike off Theramenes from the list of the Three Thousand ; and we shall order his execution.” Theramenes sprang to the altar of Hestia, and called on those present for help. “Any one of your names,” he cried, “can be struck out of the list as easily as mine.” The appeal was in vain. The precincts of the Council room were filled with men who were known to be armed, and no one dared lift a

hand to help. The Eleven were summoned. They came, led by "the shameless and insolent" Satyrus, and Critias bade them arrest Theramenes, "who had been sentenced according to the law," and deal with him as was fit. Satyrus and his attendants tore Theramenes from the altar in spite of his resistance and cries, and carried him through the market-place, loudly protesting against the iniquity of his condemnation. "Be quiet," said Satyrus, "or you will suffer for it." "If I am quiet," retorted Theramenes, "shall I not suffer?"

2. Translate into English:—

Mihi cuiusquam salus tanti fuisset, ut meam negligerem? per me ego veritatem patefactam contaminarem aliquo mendacio? quemquam denique ego iuvarem, a quo tam crudeles insidias rei publicae factas, et me potissimum consule, putarem? Quod si iam essem oblitus severitatis et constantiae meae, tamne amens eram, ut, quum litterae posteritatis causa repertae sint, quae subsidio oblivioni esse possent, ego recentem putarem memoriam cuncti senatus commentario meo posse superari? Fero ego te, Torquate, iam dudum, fero, et non numquam animum incitatum ad ulciscendam orationem tuam revoco ipse et reflecto: permitto aliquid iracundiae tuae, do adulescentiae, cedo amicitiae, tribuo parenti. Sed nisi tibi aliquem modum tute constitueris, coges me oblitum nostrae amicitiae habere rationem meae dignitatis. Nemo umquam me tenuissima suspicione perstrinxit, quem non perverterim ac perfregerim. Sed mihi hoc credas velim: non iis libentissime soleo respondere, quos mihi videor facillime posse superare. Tu, quoniam minime ignoras consuetudinem dicendi meam, noli hac lenitate nova abuti mea, noli aculeos orationis meae, qui reconditi sunt, excussos arbitrari, noli id omnino a me putare esse amissum, si quid est tibi remissum atque concessum.

## GREEK.

## FIRST PAPER.

WEDNESDAY, 4th April 1900.—9 to 11 A.M.

## I. (a) Translate :—

ἀλλ' ὅτε δὴ τάχ' ὁ μοχλὸς ἐλαΐνος ἐν πυρὶ μέλλεν  
 ἄψεσθαι, χλωρός περ ἔων, διεφαίνεται δ' αἰνῶς,  
 καὶ τότ' ἐγὼν ἄσσοι φέρον ἐκ πυρὸς, ἀμφὶ δ' ἑταῖροι  
 ἴσταντ'. αὐτὰρ θάρσος ἐνέπνευσεν μέγα δαίμων.  
 οἱ μὲν μοχλὸν ἐλόντες ἐλαΐνον, ὅξυν ἐπ' ἄκρῳ,  
 ὀφθαλμῷ ἐνέρεισαν· ἐγὼ δ' ἐφύπερθεν ἀερθεὶς  
 δίνεον, ὥς ὅτε τις τρυπῶ δόρυ νήϊον ἀνὴρ  
 τρυπάνῳ, οἱ δέ τ' ἔνερθεν ὑποσσεύουσιν ἱμάντι  
 ἀψάμενοι ἐκάτερθε, τὸ δὲ τρέχει ἐμμενὲς αἰεὶ·  
 ὥς τοῦ ἐν ὀφθαλμῷ πυριήκεα μοχλὸν ἐλόντες  
 δινέομεν, τὸν δ' αἶμα περίρρεε θερμὸν ἔοντα.  
 πάντα δέ οἱ βλέφαρ' ἀμφὶ καὶ ὀφρύας εὔσεν αὐτμῇ  
 γλήνης καιομένης· σφαραγεῦντο δέ οἱ πυρὶ ῥίζαι.  
 ὥς δ' ὅτ' ἀνὴρ χαλκεὺς πέλεκυν μέγαν ἦε σκέπαρνον  
 εἰν ὕδατι ψυχρῷ βάπτῃ μεγάλα ἰάχοντα  
 φαρμάσσων· τὸ γὰρ αὖτε σιδήρου γε κράτος ἐστίν·  
 ὥς τοῦ σίξ' ὀφθαλμὸς ἐλαϊνέῳ περὶ μοχλῷ.

## (b) Translate, noticing anything remarkable :—

- (1) ἐν δ' ἄροσις λείη· μάλα κεν βαθὺν λήϊον αἰεὶ  
 εἰς ὥρας ἀμῶεν, ἐπεὶ μάλα πῖαρ ὕπ' οὐδας.  
 (2) τὸ μὲν ἄμμες εἴσκομεν εἰσορόωντες  
 ὄσσον θ' ἴστων νηὸς εἰκοσόροιο μελαίνης,  
 φορτίδος εὐρείης, ἥτ' ἐκπεράα μέγα λαῖτμα.

## (c) Scan the following lines :—

ἐνθα δ' ἐπ' ἠπείρου βῆμεν καὶ ἀφυσσάμεθ' ὕδωρ.  
 νιὸν Λαέρτεω, Ἰθάκῃ ἐνὶ οἰκί' ἔχοντα.  
 ἐκ δὲ καὶ αὐτοὶ βῆμεν ἐπὶ ῥηγμῖνι θαλάσσης.

## II. Translate:—

ΦΕΙ. ὦ δαιμόνιε, τί χρῆμα πάσχεις, ὦ πάτερ ;  
οὐκ εὖ φρονεῖς μὰ τὸν Δία τὸν Ὀλύμπιον.

ΣΤΡ. ἰδοὺ γ' ἰδοὺ Δί' Ὀλύμπιον· τῆς μωρίας·  
τὸ Δία νομίζεις, ὄντα τηλικουτονί.

ΦΕΙ. τί δὲ τοῦτ' ἐγέλασας ἐτεόν ;

ΣΤΡ. ἐνθυμούμενος  
ὅτι παιδάριον εἶ καὶ φρονεῖς ἀρχαϊκά.  
ὅμως γε μὴν πρόσσελθ', ἵν' εἰδῆς πλείονα,  
καί σοι φράσω τι πρᾶγμ' ὃ μαθὼν ἀνὴρ ἔσει.  
ὅπως δὲ τοῦτο μὴ διδαξείς μηδένα.

ΦΕΙ. ἰδοὺ· τί ἔστιν ;

ΣΤΡ. ὦμοσας νυνὶ Δία.

ΦΕΙ. ἔγωγ'.

ΣΤΡ. ὁρᾶς οὖν ὡς ἀγαθὸν τὸ μανθάνειν ;  
οὐκ ἔστιν, ὦ Φειδιππίδη, Ζεύς.

ΦΕΙ. ἀλλὰ τίς ;

ΣΤΡ. Δῖνος βασιλεύει, τὸν Δί' ἐξεληλακώς.

ΦΕΙ. αἰβοῖ, τι ληρεῖς ;

ΣΤΡ. ἴσθι τοῦθ' οὕτως ἔχον.

ΦΕΙ. τίς φησι ταῦτα ;

ΣΤΡ. Σωκράτης ὁ Μήλιος  
καὶ Χαιρεφῶν, ὃς οἶδε τὰ ψυλλῶν ἔχνη.

## III. Translate:—

(a) Τὸ δέ γε ἀληθές τοιοῦτο μέν τι ἦν, ὡς ἔοικεν, ἡ δικαιοσύνη, ἀλλ' οὐ περὶ τὴν ἔξω πρᾶξιν τῶν αὐτοῦ, ἀλλὰ περὶ τὴν ἐντὸς ὡς ἀληθὺς περὶ ἑαυτὸν καὶ τὰ ἑαυτοῦ, μὴ εἰσάπαντα τὰλλότρια πράττειν ἕκαστον ἐν αὐτῷ μηδὲ πολυπραγμονεῖν πρὸς ἄλληλα τὰ ἐν τῇ ψυχῇ γένη, ἀλλὰ τῷ ὄντι τὰ οἰκεῖα εὖ θέμενον καὶ ἄρξαντα αὐτὸν αὐτοῦ καὶ κοσμήσαντα καὶ φίλον γενόμενον ἑαυτῷ καὶ ξυναρμόσαντα τρία ὄντα ὥσπερ ὅρους τρεῖς ἀρμονίας ἀτεχνῶς νεάτης τε καὶ ὑπάτης καὶ μέσης, καὶ εἰ ἄλλα ἅττα μεταξὺ τυγχάνει ὄντα, πάντα ταῦτα ξυνδῆσαντα καὶ παντάπασιν ἓνα γενόμενον ἐκ πολλῶν, σῶφρονα καὶ

ἡρμουςμένον, οὕτω δὲ πρᾶττειν ἤδη, ἔάν τι πράττῃ ἢ περὶ χρημάτων κτήσιν ἢ περὶ σώματος θεραπείαν ἢ καὶ πολιτικόν τι ἢ περὶ τὰ ἴδια ξυμβόλαια, ἐν πᾶσι τοῖτοις ἡγούμενον καὶ ὀνομάζοντα δικαίαν μὲν καὶ καλὴν πράξιν, ἢ ἂν ταύτην τὴν ἔξιν σώξῃ τε καὶ ξυναπεργάζηται, σοφίαν δὲ τὴν ἐπιστατοῦσαν ταύτῃ τῇ πράξει ἐπιστήμην, ἄδικον δὲ πράξιν, ἢ ἂν αἰὲν ταύτην λύῃ, ἀμαθίαν δὲ τὴν ταύτῃ αὐτὴν ἐπιστατοῦσαν δόξαν.

(b) χρηματιστικοῦ, ἐπικουρικοῦ, φυλακικοῦ γένους οἰκειοπραγία, ἐκάστου τούτων τὸ αὐτοῦ πράττοντος ἐν πόλει, τούναντίον ἐκείνου δικαιοσύνη ἢ εἴη.

What are the three elements in the soul which answer to these elements in the state? Give Plato's words for them.

#### IV. Translate:—

(a) Παρὰ πάντα δὲ ταῦτα ἐκείνο ἔτι ἀκούσατέ μου. οὐκ ἔνι τοῦτον ἔχειν καλῶς τὸν νόμον, ὃς περὶ τῶν παρεληλυθότων καὶ τῶν μελλόντων ταῦτὰ λέγει. μηδέν' εἶναι φησιν ἀτελεῆ πλὴν τῶν ἀφ' Ἀρμοδίου καὶ Ἀριστογείτονος. καλῶς. μηδὲ τὸ λοιπὸν ἐξεῖναι δοῦναι. μηδ' ἂν τοιοῦτοί τινες γίνωνται, Λεπτίνῃ; εἰ τὰ πρὸ τοῦ κατεμέμφου, τί; μὴ καὶ τὰ μέλλοντ' ἤδεις; ὅτι νῆ Δία πόρρω τοῦ τι τοιοῦτον ἐλπίζειν νῦν ἐσμέν. καὶ εἴημέν γ', ὦ ἄνδρες Ἀθηναῖοι. ἀλλὰ χρή γε ἀνθρώπους ὄντας τοιαῦτα καὶ λέγειν καὶ νομοθετεῖν οἷς μηδεὶς ἂν νεμεσήσῃ, καὶ τὰγαθὰ μὲν προσδοκᾶν καὶ τοῖς θεοῖς εὐχεσθαι διδόναι, πάντα δ' ἀνθρώπινα ἡγέσθαι. οὐδὲ γὰρ ἂν Λακεδαιμόνιοί ποτ' ἠλπισαν εἰς τοιαῦτα πράγματ' ἀφίξεσθαι, οὐδέ γ' ἴσως Συρακόσιοι τὸ πάλαι δημοκρατούμενοι καὶ φόρους Καρχηδονίους πραττόμενοι καὶ πάντων τῶν περὶ αὐτοὺς ἄρχοντες καὶ ναυμαχίᾳ νενικηκότες ἡμᾶς ὑφ' ἐνὸς γραμματέως, ὥς φασι, τυραννήσεσθαι.

(b) Translate, with brief exposition of the argument:—

καίτοι εἰ ἦν ἱερῶν ἀτέλειαν ἔχειν ταῦτὸ καὶ λειτουργιῶν, τί τοῦτο παθὼν προσέγραψεν; οὐδὲ γὰρ τούτοις ἀτέλεια τῶν γ' ἱερῶν ἐστι δεδομένη.



HISTORY.

V. Write briefly on any *two* of the following subjects:—

(a) Describe the battle of Salamis, and give a sketch to illustrate the position of the combatants.

(b) What was the Confederacy of Delos; when, and for what purpose, was it formed, and what were the terms of its constitution?

(c) Mention the chief political achievements of Pericles, and consider how far they were beneficial to Athens.

(d) Give an outline of the life and achievements of Alexander the Great.

LITERATURE.

VI. Write briefly on *one* of the following subjects:—

(a) Give some account of any *two* of the following: Hesiod, Simonides, Isocrates, Menander.

(b) Describe the general arrangements of a Greek theatre in the fifth century.

(c) The political and educational creed of Aristophanes.

(d) Sketch the history of Attic Prose down to Demosthenes, naming a representative author in each branch of prose writing.

(e) Distinguish Epic, Lyric, and Dramatic poetry, and mention the period at which each of them chiefly flourished.

SECOND PAPER.

WEDNESDAY, 4th April 1900.—11.30 A.M. to 1.30 P.M.

I. For Greek Prose:—

Nevertheless, for the moment the joy created was intense. Philip was lying dangerously ill at Segovia, when the happy tidings of the reduction of Harlem, with its accompanying butchery, arrived. The account of all this misery, minutely detailed to him by Alva, filled him with fresh vigour. The blood of twenty-three hundred of his fellow-creatures—coldly

murdered, by his orders, in a single city—proved for the sanguinary monarch a more powerful remedy than all the drugs of the physicians: he drank and was refreshed. While such was the exultation of the Spaniards, the Prince of Orange was neither dismayed nor despondent. As usual, he trusted to a higher power than man. “I had hoped to send you better news,” he wrote to Count Louis, “nevertheless, since it has otherwise pleased the good God, we must conform ourselves to His Divine Will. I take the same God to witness that I have done everything according to my means, which was possible, to succour the city.”

## II. For Unseen Translation:—

καὶ πάννυ, ἔφη ὁ Ἰσχόμαχος· οὐ μέντοι γε πάντας ἐξ ἐτοίμου εἰρίσκω ὑπάκουοντας τῆς διδασκαλίας ταύτης. καίτοι τὰ μὲν καὶ ἐκ τῶν Δράκοντος νόμων, τὰ δὲ καὶ ἐκ τῶν Σόλωνος πειρῶμαι, ἔφη, λαμβάνων ἐμβιβάζειν εἰς τὴν δικαιοσύνην τοὺς οἰκέτας. δοκοῦσι γάρ μοι, ἔφη, καὶ οὗτοι οἱ ἄνδρες θεῖναι πολλοὺς τῶν νόμων ἐπὶ δικαιοσύνης τῆς τοιαύτης διδασκαλίᾳ. γέγραπται γὰρ ζημιοῦσθαι ἐπὶ τοῖς κλέμμασι, καὶ δεδέσθαι, ἣν τις ἁλῶ ποιῶν, καὶ θανατοῦσθαι τοὺς ἐγχειροῦντας. δῆλον οὖν, ἔφη, ὅτι ἔγραφον αὐτὰ βουλόμενοι ἀλυσιτελῇ ποιῆσαι τοῖς ἀδίκους τὴν αἰσχροκέρδειαν. ἐγὼ οὖν, ἔφη, καὶ τούτων ἓνα καὶ ἄλλα τῶν βασιλικῶν νόμων προσφέρων πειρῶμαι δικαίους περὶ τὰ διαχειριζόμενα ἀπεργάζεσθαι τοὺς οἰκέτας. ἐκεῖνοι μὲν γὰρ οἱ νόμοι ζημίαι μόνον εἰσὶ τοῖς ἁμαρτάνουσιν, οἱ δὲ βασιλικοὶ νόμοι οὐ μόνον ζημιοῦσι τοὺς ἀδικοῦντας, ἀλλὰ καὶ ὠφελοῦσι τοὺς δικαίους.

## RHETORIC AND ENGLISH LITERATURE.

### FIRST PAPER.

SATURDAY, 31st March 1900.—11.30 A.M. to 1.30 P.M.

1. Write an Essay on any *one* of the following subjects:—

(a) The Humour of Chaucer and that of Shakespeare compared.

(b) The Resources of English Blank Verse, as illustrated in your Set Books.

(c) De Quincey's view of Rhetoric compared with that of any other writer.

2. How has English Vocabulary been borrowed directly, and how indirectly, from the Latin? Quote six instances of the same Latin word being borrowed both directly and indirectly, discriminating the meanings in each case.

3. In what senses could the epithet Rhetorical be applied to the Verse of Pope and to the Prose of Macaulay?

4. Give the broad features of English Prose Style *either* in the Sixteenth *or* in the Eighteenth Century.

5. Give an account of one item out of each of the following groups:—(a) The Old English Lyrics, the Cynewulfian Poems, the *Brut*; (b) the Poems of Barbour, the Poems of Henryson, the Poems of Allan Ramsay.

6. Say concisely what you know and think about any *four* of the following:—The *Prologue* to the *Canterbury Tales*—*Utopia*—*The Ruins of Time*—*Tamburlaine*—*Areopagitica*—The *Essay on Man*—Johnson's *Dictionary*—*Adonais*—*The Memoirs of Barry Lyndon*—*Men and Women*.

7. Explain and illustrate the terms: anapæstic verse, English hexameter, cæsura, alexandrine, rhyme royal. Write down a technical description of the metres of *Sir Thopas*, *L'Allegro*, and the *Ode to Evening*.

8. Describe the poetical workmanship of Spenser.

## SECOND PAPER.

SATURDAY, 31st March 1900.—2 to 4 P.M.

[N.B.—Not less than SIX, or more than EIGHT, Questions should be attempted.]

1. Describe the appearance, dress, and armour of Sir Thopas, giving the original words and their meanings.

2. Of what class of works is *Sir Thopas* a parody? Is the satire just or unjust?

3. Annotate: "*Alma Redemptoris*"—"O martir, sowded to virginitee"—"yonge Hugh of Lyncoln"—"Sir Lybeux"—"ride an haukyng for river"—"I meane glory in my general intention"—"saints all in that city sam"—"With pains far passing that long-wandring Greeke That for his love refused deitye"—"he that harrowd hell with heavie stowre."

4. Discuss any censures that have been or can be passed upon *Much Ado About Nothing*.

5. In what senses can *The Tempest* be called a romantic play?

6. Annotate:—

(a) "What need the bridge much broader than the flood?

The fairest grant is the necessity."

(b) "Graves, yawn, and yield your dead,  
Till death be uttered."

(c) "Contract, succession,  
Bourn, bound of land, tilth, vineyard, none."

(d) "Thy banks with pioned and twilled brims."

(e) "And let some strange mysterious dream  
Wave at his wings, in aery stream  
Of lively portraiture displayed."

(f) "Then to come, in spite of sorrow,  
And at my window bid good morrow."

7. What qualities in Milton's earlier verse distinguish him from, or above, contemporary English poets?

8. What is Dryden's own opinion on the main topics canvassed in the *Essay of Dramatic Poesy*?

9. What are the circumstances burlesqued in *The Battle of the Books*? How far may they be supposed to justify its satire?

10. Relate the life and literary career of Collins, with a brief estimate of his finest work.

11. How does Landor portray any *three* of the following :—Esop's Rhodope, Spenser, Peter the Great, the Hamadryad, Petrarca, Boccaccio?

12. It has been denied that the gift of humour is eminent in Tennyson. Argue this point, especially with reference to *The Princess*.

## FRENCH.

### FIRST PAPER.

SATURDAY, 7th April 1900.—9 to 11 A.M.

1. Translate into English :—

(a) C'est pour cela que Carlyle n'a vu que le mal dans la Révolution française. Il la juge aussi injustement qu'il juge Voltaire, et pour les mêmes raisons. Il n'entend pas mieux notre manière d'agir que notre manière de penser. Il y cherche le sentiment puritain, et, comme il ne l'y trouve pas, il nous condamne. L'idée du devoir, l'esprit religieux, le gouvernement de soi-même, l'autorité de la conscience austère, peuvent seuls, à son gré, réformer une société gâtée, et rien de tout cela ne se rencontrait dans la société française. La philosophie qui a produit et conduit la révolution était simplement destructive, proclamant pour tout Evangile "que les mensonges sociaux doivent tomber, et que dans les matières spirituelles suprasensibles, il n'y a rien de croyable." La théorie des droits de l'homme, empruntée à Rousseau, n'était "qu'un jeu logique, une pédanterie, à peu près aussi opportune qu'une théorie des verbes irréguliers." Les mœurs en vogue étaient l'épicurisme de Faublas. La morale en vogue était la promesse du bonheur universel. Incrédulité, bavardage creux, sensualité, voilà les ressorts de cette réforme. On déchaîna les instincts, et l'on renversa les barrières. On remplaça l'autorité corrompue par l'anarchie effrénée.

TAINÉ.

- (b) Allons, mère, sans trouble et d'un air triomphant  
 Baisez-moi le grand front de ce petit enfant.  
 Ce n'est pas un savant, ce n'est pas un prodige.  
 C'est un songeur, tant mieux. Soyez fière, vous dis-je !  
 La méditation du génie est la sœur,  
 Mère, et l'enfant songeur fait un homme penseur,  
 Et la pensée est tout, et la pensée ardente  
 Donne à Milton le ciel, donne l'enfer à Dante !  
 Un jour il sera grand. L'avenir glorieux  
 Attend, n'en doutez pas, l'enfant mystérieux  
 Qui veut savoir comment chaque chose se nomme,  
 Et questionne tout, un mur autant qu'un homme.  
 Qui sait si, ramassant à terre sans effort  
 Le ciseau colossal de Michel-Ange mort,  
 Il ne doit pas, livrant au granit des batailles,  
 Faire au marbre étonné de superbes entailles ?  
 Ou, comme Bonaparte ou bien François premier,  
 Prendre, joueurs d'échecs, l'Europe pour damier ?  
 Qui sait s'il n'ira point, voguant à toute voile,  
 Ajoutant à son œil, que l'ombre humaine voile,  
 L'œil du long télescope au regard effrayant,  
 Ou l'œil de la pensée encor plus clairvoyant,  
 Saisir, dans l'azur vaste ou dans la mer profonde,  
 Un astre comme Herschell, comme Colomb un monde ?

VICTOR HUGO.

- (c) C'est à vous que je parle, ma sœur.  
 Le moindre solécisme en parlant vous irrite ;  
 Mais vous en faites, vous, d'étranges en conduite.  
 Vos livres éternels ne me contentent pas ;  
 Et, hors un gros Plutarque à mettre mes rabats,  
 Vous devriez brûler tout ce meuble inutile,  
 Et laisser la science aux docteurs de la ville ;  
 M'ôter, pour faire bien, du grenier de céans,



Cette longue lunette à faire peur aux gens,  
Et cent brimborions dont l'aspect m'importune ;  
Ne point aller chercher ce qu'on fait dans la lune,  
Et vous mêler un peu de ce qu'on fait chez vous,  
Où nous voyons aller tout sens dessus dessous.  
Il n'est pas bien honnête, et pour beaucoup de causes,  
Qu'une femme étudie et sache tant de choses.  
Former aux bonnes mœurs l'esprit de ses enfants,  
Faire aller son ménage, avoir l'œil sur ses gens,  
Et régler la dépense avec économie,  
Doit être son étude et sa philosophie.  
Nos pères, sur ce point, étaient gens bien sensés,  
Qui disaient qu'une femme en sait toujours assez,  
Quand la capacité de son esprit se hausse  
A connaître un pourpoint d'avec un haut-de-chausse.  
Les leurs ne lisaient point, mais elles vivaient bien ;  
Leurs ménages étaient tout leur docte entretien ;  
Et leurs livres, un dé, du fil et des aiguilles,  
Dont elles travaillaient au trousseau de leurs filles.

MOLIÈRE.

(d) L'empereur Auguste estant en la Gaule, receut certain  
advertissement d'une conjuration que luy brassoit L. Cinna : il  
delibera de s'en venger, et manda pour cet effect au lendemain  
le conseil de ses amis. Mais la nuit d'entre deux, il la passa  
avecques grande inquiétude, considerant qu'il avoit à faire  
mourir un jeune homme de bonne maison et nepveu du grand  
Pompeius, et produisoit en se plaignant plusieurs divers discours :  
Quoy doncques, disoit-il, sera il vray que je demeureray en  
crainte et en alarme, et que je lairray mon meurtrier se pro-  
mener cependant à son ayse ? S'en ira il quitte, ayant assailly  
ma teste, que j'ay sauvee de tant de guerres civiles, de tant de  
batailles par mer et par terre, et aprez avoir estably la paix  
universelle, du monde ? Sera il absolt, ayant deliberé non de

me meurtrir seulement, mais de me sacrifier ?—car la conjuration estoit faicte de le tuer comme il ferait quelque sacrifice. Apres cela, s'estant tenu coy quelque espace de temps, il recommenceoit d'une voix plus forte, et s'en prenoit à soy mesme : Pourquoi vis tu, s'il importe à tant de gents que tu meures ? N'y aura il point de fin à tes vengeances et à tes cruantez ? Ta vie vault elle que tant de dommage se face pour la conserver ?

MONTAIGNE.

2. How far does French mediæval literature express and illustrate the gradual development of French civilisation ? And how far can we distinguish an ecclesiastical, a feudal and a bourgeois period in this literature ?

3. Assign the following works to their respective authors and characterise them in a few words :—*Le Roman de la Rose*, *Polyeucte*, *Britannicus*, *Gil Blas*, *l'Ecole des Maris*, *le Nereu de Rameau*, *les Travailleurs de la Mer*.

## SECOND PAPER.

SATURDAY, 7th April 1900.—11.30 A.M. to 1.30 P.M.

1. Translate into French :—

(a) The arms of Aurelian had vanquished the foreign and domestic foes of the republic. But soon after his triumph a formidable insurrection broke out at Rome. It is said to have been excited by the workmen of the mint, but its real cause and object are uncertain. So formidable was its character that in its suppression Aurelian lost 7000 of his veteran soldiers. He used his victory with unrelenting rigour. He was naturally of a severe disposition. Trained from his earliest youth in the exercise of arms, he set too small a value on the life of a citizen, chastised by military execution the slightest offences, and transferred the stern discipline of the camp into the civil administration of the laws. The unprovoked rebellion with which the

Romans rewarded his services exasperated his haughty spirit. The noblest families of the capital were involved in the guilt or suspicion of this dark conspiracy; and the unhappy senate lamented the death or absence of its most illustrious members.

GIBBON.

(b) Having a desire to see those ancients, who were most renowned for wit and learning, I set apart one day on purpose. I proposed that Homer and Aristotle might appear at the head of all their commentators; but these were so numerous, that some hundreds were forced to attend in the court and outward rooms of the palace. I knew and could distinguish those two heroes at first sight, not only from the crowd, but from each other. Homer was the taller and comelier person of the two, walked very erect for one of his age, and his eyes were the most quick and piercing I ever beheld. Aristotle stooped much, and made use of a staff. His visage was meagre, his hair lank and thin, and his voice hollow. I soon discovered that both of them were perfect strangers to the rest of the company, and had never seen or heard of them before.

SWIFT.

2. Translate into English:—

Pour écrire clairement en français, c'est-à-dire, pour arracher les idées de ce fonds obscur où nous les concevons, et les amener à la pleine lumière, que d'efforts et de travail! Si nous ne les voyions pas dans le lointain, poindre devant nous comme des lueurs qui nous attirent invinciblement et nous dérobent la longueur du chemin, qui donc s'exposerait à ce rude labeur? Quelques-unes naissent spontanément et tout exprimées; c'est la facile conquête de ceux qui sont nés sous une constellation heureuse: mais combien d'autres qui sont le fruit d'une poursuite ingrate; qu'il faut remanier sans cesse; qui, après avoir contenté un moment l'écrivain, le dégoûtent; qui ne paraissent jamais qu'une image imparfaite du vrai, mais non le vrai lui-même! Faut-il parler de la défiance que doit avoir l'écrivain

de cette demi-clarté trompeuse, qui peut lui suffire, mais qui laisse le lecteur dans les ténèbres? La douceur même que donne une vérité clairement vue ne lui est permise que le jour où tout le monde la verra comme lui; jusque-la, c'est peut-être un piège. Malheur à qui se contente trop facilement! Molière l'a dit: c'est une marque de médiocrité d'esprit. NISARD.

3. Show by examples what variation occurs in the meaning of the following adjectives, according as they are placed before or after the substantive:—(a) *propre*; (b) *brave*; (c) *même*; (d) *méchant*; (e) *dernier*.

4. Illustrate the statement that French is shortened Latin by tracing the rules of the tonic accent.

#### ESSAY.

SATURDAY, 7th April 1900.—2 to 3 P.M.

Write an essay in French on any *one* of the following subjects:—

1. What is meant by the general statement that the French national character is more "*sociable*" than the English character?

2. Analyse the influence of geographical conditions and of historical accidents on French character and civilisation.

3. Compare and contrast the Shakespearean Drama and the French Classical Tragedy.

#### GERMAN.

##### FIRST PAPER.

MONDAY, 9th April 1900.—9 to 11 A.M.

I. Translate into German from "Their conversation":—

(a) I cannot avoid mentioning here an instance of repose, in that faithful and accurate painter of nature, Shakespeare; the short dialogue between Duncan and Banquo, whilst they are

approaching the gates of Macbeth's castle. Their conversation very naturally turns upon the beauty of its situation, and the pleasantness of the air: and Banquo, observing the martlet's (*Mauerſchwâlbe*) nests in every recess of the cornice (*Gefimſ, n.*), remarks that where those birds most breed and haunt, the air is delicate. The subject of this quiet and easy conversation gives that repose so necessary to the mind, after the tumultuous bustle of the preceding scenes, and perfectly contrasts the scene of horror that immediately succeeds. It seems as if Shakespeare asked himself, What is a prince likely to say to his attendants on such an occasion? The modern writers seem, on the contrary, to be always searching for new thoughts, such as never could occur to men in the situation represented.

J. REYNOLDS.

(b) I require that the poem should impress me, so that after I have shut the book, it shall recall me to itself, or that passages should. And inestimable is the criticism of memory as a correction to first impressions. We are dazzled at first by new words and brilliancy of colour, which occupy the fancy and deceive the judgment. But all this is easily forgotten. Later the thought, the happy image which expressed it, and which was a true experience of the poet, recurs to mind and sends us back in search of the book.

R. W. EMERSON.

(c) from "it is just there"—

There is no subject of street ornament so wisely chosen as the fountain, where it is a fountain of use, for it is just there that perhaps the happiest pause takes place in the labour of the day, when the pitcher is rested on the edge of it, and the breath of the bearer is drawn deeply, and the hair swept from the forehead, and the uprightness of the form declined against the marble ledge, and the sound of the kind word or light laugh mixes with the trickle (*Rieſeln, n.*) of the falling water, heard shriller and shriller as the pitcher fills. What pause is so sweet



as that—so full of the depth of ancient days, so softened with the calm of pastoral solitude! J. RUSKIN.

II. Translate into English (*a*), and (*b*) OR (*c*), and answer the questions appended:—

(*a*) Daz er dem vater hete gesagt, ' daz erhörte ouch diu reine magt: | wan es hete diu vil süeze | ir lieben herren füeze | stände in ir schôzen, | man möhte wol genôzen | ir kintlich gemüete | hin ze der engel güete, | siner rede nam si wâr | unde marhte si ouch gar: | si enkam von ir herzen nie | unz man des nahtes slâfen gie. | dô si zir vater füezen lac | und ouch ir muoter, sô si pflac, | und si beide entsliefen, | manegen suft tiefen | holte si von herzen, | umbe ir herren smerzen | wart ir riuwe alsô grôz | daz ir ougen regen begôz | der slâfenden füeze. | sus erwachte si diu süeze.

Discuss briefly the religious element in Hartmann's "Armer Heinrich."

(*b*) He sprak of: „if hebbe mi ganz begeben, | alle vleisch vorlovet mit ein.“ | he let mi kappen unde scheperer sen | unde einen bref van sinen prier, | up dat if were desto vrier: | he wiſede mi of do sulvest aldar | under der kappen ein flet van har. | Do gink he wech unde sprak to mi: | „Gode, deme Herren, bevele if di: | if ga, dar if hebbe to don; if hebbe noch do leſen ſext unde noon, | of veſper dar to van deſſem dage.“

Discuss the relation of the dialect of the above passage to English.

(*c*) Auß hertzem grundt schrey ich zu dir, | Herr Gott, erhör mein ſthymme, | Deyn ohren Herr neyg du zu mir, | Und meine bitt vffnymme, Denn ſo du wilt des haben acht, | Wie vil der menſch hat ſund volbracht, wer will das mögen leyden. || Bey dir iſt Herr der Gnaden vill | Die ſunden zu vergeben, | Herr dein geſaß iſts rechte zhell, | Nach dem wir ſollen leben. | Deyn heyligs wort iſt allzeyt war, | Das macht das ich gern uf dich har, | Deins heylß wil ich erwarten.



What do you know of the character and development of the German "Kirchenlied"?

III. Answer (a) OR (b) and (c) OR (d):—

(a) What do you know of the origin, the tendencies, and the principal writers of the Romantic School in Germany?

(b) Discuss briefly the influence of Herder on young Goethe.

(c) Define Goethe's and Schiller's attitude towards the French Revolution as shown in "Hermann und Dorothea," in "Tell," in the "Glocke," and the "Spaziergang."

(d) What use does Schiller make of outward Nature in his "Tell"? Contrast his method with that employed by Goethe in "Hermann und Dorothea."

IV. Answer *one* of the following questions:—

(a) Enumerate in chronological order the occasions on which British and German history have brought the two nations into touch with one another.

(b) Discuss the part which the South and the North of Germany have played respectively in German political history and in the history of German civilisation.

(c) Give a short account of the life of Frederic the Great, and his place in the history of Prussia.

## SECOND PAPER.

MONDAY, 9th April 1900.—11.30 A.M. to 1.30 P.M.

I. Translate into idiomatic English:—

(a) Ein protestantischer Landgeistlicher ist vielleicht der schönste Gegenstand einer modernen Idylle; er erscheint, wie Melchisedech, als Priester und König in einer Person. An den unschuldigsten Zustand, der sich auf Erden denken läßt, an den des Ackermanns, ist er meistens durch gleiche Beschäftigung, so wie durch gleiche Familienverhältnisse geknüpft; er ist Vater, Hausherr, Landmann und so vollkommen ein Glied der Gemeinde. Auf diesem reinen, schönen,

irdischen Grunde ruht sein höherer Beruf ihm ist übergeben, die Menschen ins Leben zu führen, für ihre geistige Erziehung zu sorgen, sie bei allen Hauptepochen ihres Daseins zu segnen, sie zu belehren, zu kräftigen, zu trösten und, wenn der Trost für die Gegenwart nicht ausreicht, die Hoffnung einer glücklicheren Zukunft heranzurufen und zu verbürgen. Denke man sich einen solchen Mann, mit rein menschlichen Gefinnungen, stark genug, um unter keinen Umständen davon zu weichen, und schon dadurch über die Menge erhaben, von der man Reinheit und Festigkeit nicht erwarten kann; gebe man ihm die zu seinem Amte nötigen Kenntnisse, so wie eine heitere, gleiche Thätigkeit, welche sogar leidenschaftlich ist, indem sie keinen Augenblick verjäumt, das Gute zu wirken — und man wird ihn wohl ausgestattet haben. Zugleich aber füge man die nötige Beschränktheit hinzu, daß er nicht allein in einem kleinen Kreise verharren, sondern auch allenfalls in einen kleineren übergehen möge; man verleihe ihm Gutmütigkeit, Verjöhnlichkeit, Standhaftigkeit, und was sonst noch aus einem entschiedenen Charakter Vöbliches hervorspringt, und über dies alles eine heitere Nachgiebigkeit und lächelnde Duldung eigner und fremder Fehler: so hat man das Bild unseres trefflichen Wakefield so ziemlich beisammen.—GOETHE.

(b) Heut' noch stöbert der Schnee, wie gestern; aber es weht mir  
Still durch's tiefste Gemüth Ahnung des Lenzes dahin.

Wem verdank' ich das süße Gefühl? Seid ihr's Hyacinthen,  
Die ihr am Fenster den Kelch träumerisch duftend erschließt,  
Ist's mein Töchterchen dort im Gemach, das, leise zur Arbeit  
Singend, mich an das Geschwirr steigender Lerchen gemahnt?

I. GEIBEL.

(c) Dulde, gedulde dich fein!

Über ein Stündlein

Ist deine Kammer voll Sonne.

Über den First, wo die Glocken hängen,

Ist schon lange der Schein gegangen,

Ging in Türmers Fenster ein.

Wer am nächsten dem Sturm der Glocken,  
Einsam wohnt er, oft erschrocken;  
Doch am frühesten tröstet ihn Sonnenschein.

Wer in tiefen Gassen gebaut,  
Hütt' an Hüttlein lehnt sich traut,  
Glocken haben ihn nie erschüttert,  
Wetterstrahl ihn nie umzittert,  
Aber spät sein Morgen graut.

Höh' und Tiefe hat Lust und Leid,  
Sag ihm ab, dem thörigen Reid:  
Anderer Gram birgt andre Wonne.

Dulde, gedulde dich fein!  
Über ein Stündlein

Ist deine Kammer voll Sonne,

P. HEYSE.

Write a short appreciation of the above poem.

II. Translate into idiomatic English *either (a) or (b)*, and (c):—

(a) Was ist zu geben auf des Kaisers Wort,  
Wenn sie in Geld- und Kriegenot die Städte,  
Die untern Schirm des Adlers sich geflüchtet,  
Verpfänden dürfen und dem Reich veräußern.  
Er ist ein jüngerer Sohn nur seines Hauses,  
Nichts nennt er sein als seinen Rittermantel;  
Drum sieht er jedes Biedermannes Glück  
Mit scheelen Augen gift'ger Misgunst an.  
Dir hat er längst den Untergang geschworen —  
Noch stehst Du unverfehrt — Willst Du erwarten,  
Bis er die böse Lust an Dir gebüßt?  
Der kluge Mann baut vor.

(b) — Sind wir denn wehrlos? Wozu lernten wir  
Die Armbrust spannen und die schwere Wucht  
Der Streitart schwingen? Jedem Wesen ward  
Ein Notgewehr in der Verzweiflungsangst.

Es stellt sich der erschöpfte Hirsch und zeigt  
 Der Meute sein gefürchtetes Geweih,  
 Die Gemse reißt den Jäger in den Abgrund —  
 Der Flügstier selbst, der sanfte Hausgenoss  
 Des Menschen, der die ungeheure Kraft  
 Des Halses duldsam unters Joch gebogen,  
 Springt auf, gereizt, weßt sein gewaltig Horn  
 Und schleudert seinen Feind den Wolken zu.

Point out what is characteristic of Schiller's style in the above passage.

(c) Vater, fürwahr! wenn das Volk in glücklichen Tagen dahin  
 lebt,

Von der Erde sich nährend, die weit und breit sich aufthut  
 Und die erwünschten Gaben in Jahren und Monden erneuert,  
 Da geht Alles von selbst, und Jeder ist sich der Klügste,  
 Wie der Beste; und so bestehen sie neben einander,  
 Und der vernünftigste Mann ist wie ein Andrer gehalten;  
 Denn was Alles geschieht, geht still, wie von selber, den Gang  
 fort.

Aber zerrüttet die Noth die gewöhnlichen Wege des Lebens,  
 Reißt das Gebäude nieder und wühlet Garten und Saat um,  
 Treibt den Mann und das Weib vom Raume der traulichen  
 Wohnung,

Schleppt in die Irre sie fort durch ängstliche Tage und Nächte:  
 Ach! da sieht man sich um, wer wohl der verständigste Mann  
 sei,

Und er redet nicht mehr die herrlichen Worte vergebens.

III. Comment upon the art of Goethe as displayed in the following passage (which should *not* be translated), and discuss briefly the significance of its detail:—

Hermann eilte zum Stalle sogleich, wo die mutigen Hengste  
 Ruhig standen und rasch den reinen Hafer verzehrten  
 Und das trockene Heu, auf der besten Wiese gehauen.

Eilig legt' er ihnen darauf das blanke Gebiß an,  
 Zog die Riemen sogleich durch die schönversilberten Schnallen,  
 Und befestigte dann die langen, breiteren Zügel,  
 Führte die Pferde heraus in den Hof, wo der willige Knecht schon  
 Vorgeschoben die Kutsche, sie leicht an der Deichsel bewegend.  
 Abgemessen knüpften sie drauf an die Wage mit saubern  
 Stricken die rasche Kraft der leichthinziehenden Pferde.  
 Hermann faßte die Peitsche; dann saß er und rollt' in den Thor-  
 weg.

Als die Freunde nun gleich die geräumigen Plätze genommen,  
 Rollte der Wagen eilig und ließ das Pflaster zurücke,  
 Ließ zurück die Mauern der Stadt und die reinlichen Thürme.  
 So fuhr Hermann dahin, der wohlbekannten Chaussee zu,  
 Rasch, und säumete nicht und fuhr bergan wie bergunter.  
 Als er aber nunmehr den Thurm des Dorfes erblickte,  
 Und nicht fern mehr lagen die gartenumgebenen Häuser,  
 Dacht' er bei sich selbst, nun anzuhalten die Pferde.

Von dem würdigen Dunkel erhabener Linden umschattet,  
 Die Jahrhunderte schon an dieser Stelle gewurzelt,  
 War, mit Rasen bedeckt ein weiter grünender Ager  
 Vor dem Dorfe, den Bauern und nahen Städtern ein Lustort.  
 Flach gegraben befand sich unter den Bäumen ein Brunnen;  
 Stieg man die Stufen hinab, so zeigten sich steinerne Bänke,  
 Rings um die Quelle gesetzt, die immer lebendig hervorquoll,  
 Reinlich, mit niedriger Mauer gefaßt, zu schöpfen bequemlich.  
 Hermann aber beschloß, in diesem Schatten die Pferde  
 Mit dem Wagen zu halten.

IV. Answer the following questions:—

Write short philological notes on any twelve of the following:—echt, Fasnacht, Gänsestall, Verließ, Buchstab, selbander, Gefelle, Mitternacht, behende, Reifige, unmündig, Frohnvogt, jeglich, Firn, Argwohn, Gerücht, unversehrt, Zwietracht, Hausrat, Elend.

Give a short account of the place and the history of the

Fremdwort in the German language, and distinguish between Fremdwort and Lehnwort. Illustrate your remarks by a few characteristic examples.

### THIRD PAPER.

MONDAY, 9th April 1900.—2 to 3 P.M.

Write a short Essay on:—

- (a) Der Charakter des Apothekers in „Hermann und Dorothea.“
- (b) Das Leben auf einer deutschen Ritterburg im Mittelalter.
- (c) Vorteile und Nachteile der allgemeinen Wehrpflicht (conscription).

### CELTIC.

#### FIRST PAPER—OLD GAELIC.

WEDNESDAY, 28th March 1900.—9 to 11 o'clock.

#### 1. Translate:—

“*Bid messu dúib éin,*” ol se, “*a n-dogen-sa, céin co tiasat lim.*”  
 “*Cid dogena-sib di sudiu,*” ol Conchobar, “*cén co tiasat Ulaid lat?*” “*Dogén-sa éin,*” ol Bricriu, “*imcossait na ríge agus na tóisech agus na láth n-gaile agus na n-óthigernd, commáromarba cách dib a chéile maní thiasat lim do ól mo fíde.*” Nocho *díng-niam-ní* airut-sa sin,” or Conchobar. “*Immacossaitiub-sa eter in mac agus a athair, commámuirfe doib. Maní fetur-sa sin dano,*” or se, “*immacossaitiub eter in n-ingin agus ammathair. Maní fetur sin dano,*” or se, “*immacossaitiub dá cích cachá óenmná la Ultu, commatuairefe doib, co m-brenfat agus collofat la sodain.*” “*Is ferr a techt,*” ol Fergus mac Róig, “*bid fír sucut,*” ol se, “*Denaid immacallaim didiu,*” or Sencha mac Ailella, “*uathad do degdánib Ulad, máid maith lib.*” “*Buid ole de,*” ol Conchobar, “*cen co déntar comarli fris.*”



2. (a) Give Indo-European cognates of any *five* words in the above passage.

(b) Parse fully any *five* of the verb-forms in italics.

3. Annotate briefly the forms in italics:—

(a) In tan *tiagait* Ulaid for cricha echtrand, udi tri là ocus tri n-aidche dait-siu remib for áthaib ocus ilathaib.

(b) *Batir* hé iarom *bátúr* im Chonchobar i n-airinuch in tige .i. Fergus mac Róich, Celtchar mac Uthechair.

(c) “In caurathmir ucut,” ol se, “amal ro aurgnad, ni caurathmir tige meraige. Laech bas dech lib do Ultaib, *damberaid dó.*” *Fosfúcaib* la sodain.

(d) “Dale sechut,” ol se, “a curathmír n-ugut do Loegairiu Buadach, uair iss e *nondlig* sech ócu Ulad ar chena.”

(e) In tan iarom ro scaig do Bricind a scrutan ina menmain, amal doragad airi, ba sí uair in sin dolluid Fedelm Nóichride coecait ban asind ríghthig immach iar trommi óil. *Addaci* Briceriu *sechai.*

4. Express in Old Gaelic:—

It fell upon a day there was in Emain Macha a gathering of the Ultonians. Bricriu of the Evil Tongue was present, and was made welcome. He addressed Conchobar and the Ultonians as a body, saying: “Come and feast with me at my palace in Dun Rudraige.” “Gladly,” said Conchobar, “if that please the Ultonians.” The Ultonian nobles made answer: “We will not go; for if we go to feast with Bricriu, our dead will outnumber our living, when he has incensed us against each other.” At that time, among the Ultonians, Conchobar was a god upon earth.

5. Translate:—

“Marbthar ind ingen,” ar ind óie. “Ni thó,” or Conchobar. “Berthair lim-sa ind ingen imbarach,” or Conchobar ocus ailebthair dom réir fein ocus bid sí ben bías im fharrad-sa. Ocus ní ra lamatar Ulaid a chocert immi. Do gníther ón dano. Ro

alt la Conchobar co m-boi si ingen as mórailliu ro bóí i n-hErinn. Is i liss fo leith ro alt co nach acced fer di Ultaib hí cosin n-úair no foad la Conchobar oculus ní búí duine no leicthe issin leis sin acht a haiti-si oculus a mummi oculus dano Lebarcham, ar ní éta gabail disside, ar ba banchainte.

6. Translate:—

(a) Oculus ráinic Oisín co griantrácht an tobair ⁊ atchonnaic na hocht néicne áille eochairbreca ann. ór do bí do dhiamair an inaid nár ecal leosom ní ann. ⁊ benais ocht ngais bhiroir ⁊ ocht ngais fothlachta ⁊ tuc in tsithal fó'n tiprait ⁊ tuc lais na hocht mbrataín beo ac baeithléimnech isin tsithail ⁊ na gais birair ⁊ fhothlachta ar a huachtar ⁊ táinic roime co hUisnech amlaid sin ⁊ tuc in tsithal i fiadnaise ríge Erenn.

(b) Is ann adubairt Cáilte: inam ar sé do dhamaib allaide ⁊ d'eilltib dul i nionnaib cnoc ⁊ carrac anosa ⁊ inam éigned do dhul i cuasaib bruach ⁊ adubairt an láid:—

Is fuar geimred, adracht gaeth  
éirgidh dam díscair dergbaeth;  
Nocha te anocht in sliab slán  
gé biadh dam dian ag dórdán.

7. (a) Wherein centres the special interest of *Fled Bricrend* for the student of the Anglo-Norman Romances? Explain briefly.

Or,

(b) Give the manuscripts of *Fled Bricrend*. Estimate the value of the tale (a) for the student of Gaelic; (b) for the student of comparative culture.

SECOND PAPER—MODERN GAELIC.

WEDNESDAY, 28th March 1900.—11.30 to 1.30 o'clock.

1. Translate into English:—

“C’aite bheil mo chairdean cruaidh,  
Neart mo laimh an cunnart riamh?”

C'àite Cathbaid bu ghloine snuadh,  
 Dubhchomar nam buadh, an triath ?  
 An d'fhàg thu mi, Fhearghuis bu chòrr,  
 'S an sruth mòr-sa tional ri m' thaobh,  
 A laoich an sòlas nam fleadh, 's bu mhòr  
 'N àm cruadail ? A mhic Rosa nam faobh,  
 An tig thu mar earb o Ghalmar,  
 Mar eilid o aomadh nan sliabh ?  
 Ceud fàilt air mac Rosa mheanmnaich,  
 Ciod am bròn a th' air t' anam, a thriath ?"

Thuir Cuchullin, "Séid, a ghaoth,  
 O innis chaomh cheathaich a' chuain ;  
 Gu bàs nam mìltean thig, a shaoi,  
 Ard-rìgh Shelma is mòr luaidh.  
 Tha do shùil, mo charaid, dhomh féin  
 Mar dhearrsadh na maidne o neul,  
 Do luingeas mar sholus nan speur,  
 Thu féin mar theine bu chòrr  
 A dhealras gu mòr 's an oidhche.  
 A Chonaill, 'chinn-uidhe nan triath,  
 Is taitneach ar cairdean am bròn.  
 Tha 'n oidhche tional mu'n t-sliabh,  
 C'àite bheil Fionnaghal nan long ?  
 Suidheamaid fo'n dùbhradh dhùint'  
 Feitheamh gealaich ùir is reul."

2. Comment upon *mac Rosa mheanmnaich* (parsing the last word) and *Fionnaghal*. Indicate the bearing of the names in these passages upon the question of the authenticity of the texts.

3. Translate into English :—

- (a) Tha 'n eilid anns a' ghleannan so,  
 Cha'n amadan gun eòlas  
 A leanadh i mur b' aithne dha

Tigh'n farasda 'n a còdhail ;  
 Gu faiteach bhi 'n a earalas  
 Tigh'n fagus di mu'n caraich i  
 Gu faicilleach gle earraigeach  
 Mu'm fairich i g' a còir e ;  
 Feadh shloc is ghlac is chamhanan  
 Is ehlach a dheanadh falach air,  
 Bhi beachdail air an talamh  
 'S air a' char a thig na neòil air :  
 'S an t-astar bhi 'g a tharruing air  
 Cho macanta 's a b'aithne dha,  
 Gu'n glacadh e d'a h-aindeoin i  
 Le h-anabharra seòltachd.  
 Le tùr, gun ghainne baralach,  
 An t-sùil a chur gu dannarra  
 A' stiùradh na du-bannaiche  
 'S a h-aire ri fear-cròice ;  
 Bhiodh rùdan air an tarruing  
 Leis an lùbt' an t-iarrunn-earra  
 Bheireadh ionnsuidh nach biodh mearachdach  
 Do'n fhear a bhiodh 'g a seòladh.

Or,

(b) Gidheadh tuig, a dhuine, nach dleaghair dhùinn guil ná caoineadh do dhéanamh amhail doghnídis na Págánaigh, mar atá ár bhfuil nó ár bhfionnfadh do tharraing, nó ár ndealbha do sgrios lé n-ár n-inguibh, nó ár gcuirp do lot lé harmaibh, nó nuall-ghul árd do dhéanamh amhail chona allta : do bhrigh nach ionann dál dúinn 7 do na Págánchaibh, ag nach raibhe súil ris an eiseirghe, ná ré chéile d' fhaicsin go bráth aris ; ní hionann 7 sinne, ag a bhfuil Creideamh Críost. Is uime-sin adeir *Cyprian* naomhtha 'san leabhar ro sgríobh do dhomharbhthacht na hanma "an dream a deirimid do mharthain i bhfarradh Dé, ní dhleagh-air dhùinn a geoineadh amhail dhreim do bhiadh ar n-a gcaill."

4. In connection with passage 3 (a) explain the *h* in *h-aindeoin*, *h-anabharra*, and the *t* in *t-sùil*;

Or,

in connection with 3 (b) give the rule with respect to a primitive nasal termination, and point to examples of this phonetic feature in modern Scottish Gaelic.

5. Write a full note on the etymology, construction, and idiomatic use of any *three* of the following prepositions: *air*, *eadar*, *de*, *mar*, *ri*.

6. Translate into Modern Gaelic (Scottish or Irish):—

Anon, high above head, come wheeling a covey of lovely sea-swallows. You fire, one flutters down, never more to skim the horizon or to dip in the sea-sparkle. Lift it up; is it not beautiful? The wild, keen eye is closed, but you see the delicate slate-colour of the wings, and the long tail-feathers white as the creaming foam. There is a stain of blood on the breast, hardly brighter than the scarlet of its beak and feet. Lay it down, for its companions are dashing round and round, uttering harsh cries of rage and sorrow; and had you the heart, you could shoot them one by one. At ebb of tide wild-looking children, from turf cabins on the hill-side, come down to hunt shell-fish. Even now a troop is busy; how their shrill voices go the while!

7. Write a critical estimate (not exceeding two pages) on Mary MacLeod (*Nighean Alastair Ruaidh*) or John Macdonald (*Iain Lom*) as Gaelic poets.

## II.—MENTAL PHILOSOPHY.

### LOGIC.

MONDAY, 2nd April 1900.—9 to 11 A.M.

1. State and defend what seems to you the best definition of Logic.

2. Give the contradictory, converse, and contrapositive of the following propositions:—

(a) No useless studies should be cultivated.

(b) No one can answer all these questions who has not been diligent.

(c) If a straight line falling upon two other straight lines makes the alternate angles equal to one another, these two straight lines shall be parallel.

3. Discuss the question whether syllogism is or is not a *petitio principii*.

4. Define and exemplify the following:—*infima species*, analytic judgment, regular sorites, fallacy of accident, empirical law, intermixture of effects.

5. Explain carefully the character and the special use of the Method of Difference, and examine the ultimate ground of its validity.

6. Explain the nature of analogical reasoning, and discuss the question whether there is or is not a real ground of distinction between Induction and Analogy.

7. Consider the meaning and use in Psychology of the idea of "faculties."

8. Give an account of the facts summarised in Weber's Law. What is their chief importance?

TUESDAY, 3rd April 1900.—3 to 5 P.M.

1. What is meant by the doctrine of a "presentation-continuum"? Against what views of the mind is it directed?

2. Give a careful account of the mechanism of vision, and consider its relation to the visual perception of Space.

3. Discuss the psychological significance of Association by Contrast, and critically compare various explanations of Association in general.



4. In what does the importance of Democritus consist? State his theory and compare it with that of Anaxagoras.

5. Explain and examine the doctrine of the Relativity of Knowledge as held by Protagoras. How was it met by Socrates and Plato?

6. How does Locke distinguish simple from complex ideas, and how does he subdivide both classes?

7. Give a careful statement of Berkeley's conception of spiritual substance. What is its relation to Locke's account of substance and to Hume's theory of knowledge?

8. State and discuss Hume's account of Power and his criticism of other accounts of it. What is the significance of his view for his philosophy as a whole?

### MORAL PHILOSOPHY.

THURSDAY, 5th April 1900.—11.30 A.M. to 1.30 P.M.

1. How is Conscience conceived (a) by the Intuitionists, (b) by Mill?

Develop what you regard as a satisfactory theory.

2. Discuss the possibility of making Self-sacrifice the moral end.

3. Examine critically Mill's account of the relation of morality to society. Compare it with that of previous Utilitarians.

4. Discuss the possibility of combining the ideas of happiness and conformity to law in a single criterion of morality. On what grounds would the one principle or the other be preferred, if they should appear to conflict?

5. State and examine Butler's conception of Self-love, and of its place in human nature.

6. Consider the possibility of a conception of Freedom which shall be consistent

(a) with the possibility of predicting action,

(b) with the unity of character and conduct.

THURSDAY, 5th April 1900.—3 to 5 P.M.

1. Discuss the relation of Socrates' account of Virtue to that of the Sophists.
2. Explain the significance of Plato's Communism. What is its relation to his Psychology and to his Idealism?
3. State and examine Aristotle's account of Pleasure. What is its relation, in his theory, to the Good?
4. Explain the connection of Hobbes's ethical theory (a) with previous speculation, (b) with the political circumstances of his time.
5. Give a careful account of the ethical systems of Shaftesbury and Clarke.
6. In what respects is Spencer's ethical theory an advance upon that of Mill? How far is his development of Utilitarianism consistent with the Utilitarian presuppositions?

## *SPECIAL EXAMINATION IN GREEK*

FOR

CANDIDATES FOR HONOURS IN MENTAL PHILOSOPHY

*Who have not included Greek as a subject in the Examinations for the Ordinary Degree of M.A.*

WEDNESDAY, 11th October 1899.—11.30 A.M. to 1.30 P.M.

1. Passages from set books for translation into English:—

ARISTOTLE, *Nic. Ethics*, I.:

1097 b 22, ἀλλ' ἴσως . . . αὐτοῦ, 1097 b 28.

1102 b 11, ἀλλὰ περὶ . . . λόγῳ, 1102 b 18.

PLATO, *Republic*, VI.:

500 B, οὐδὲ γὰρ . . . ἔφη, 500 C.

507 B, τὰ μὲν . . . ἔφη, 507 D.

Or,

PLATO, *Republic*, VII. :

523 A, ἐγὼ πειράσομαι . . . λέγω, 523 B.

533 E, ἀρέσκει . . . παρεληλυθότες, 534 A.

2. Unseen passage for translation into English :—

PLATO, *Phaedo* :

70 E, τοῦτο οὖν . . . ἦ δ' ὅς, 71 B.

## POLITICAL ECONOMY.

### FIRST PAPER.

THURSDAY, 22nd March 1900.—2 to 4 P.M.

[Answer SEVEN questions only.]

1. Define accurately the terms utility, total utility, marginal utility.

Explain and criticise the theory of Consumers' Rent (or Surplus).

2. Distinguish between Labour from the subjective and objective point of view.

Show the bearing of your answer on the differences between (a) nominal and real wages, and (b) low wages and cheap labour.

3. Explain *economic* rent and *quasi* rent, and note carefully the chief points of resemblance and difference.

4. Compare the advantages and disadvantages of production on a large and small scale in agriculture.

5. Show the difficulties in defining the term Socialism.

How does Mill deal with Communism?

6. What, according to Mill, is the essential principle of property?

How does he apply this principle to land considered as "the raw material of the earth"?

7. Examine the principal differences in the wages fund theory and the produce theory of wages.

Illustrate by reference to the effects of Trade Unions on the rate of wages generally.

8. Examine the assertion that the tendency of capital is towards increasing concentration. Note some of the counter-acting causes; (a) as regards the ownership; (b) the use of capital.

9. Explain the tendency of competition to equalise the net interest earned by capital, and define carefully net interest.

10. Show how the law of diminishing return is applied in the theory of economic rent.

## SECOND PAPER.

FRIDAY, 23rd March 1900.—9 to 11 o'clock.

[Answer SEVEN questions only.]

1. How does Mill distinguish between Value and Price.

Explain the proposition that "relative prices must be adjusted to relative values."

2. Explain the term *elasticity* as applied to Demand and Supply. Illustrate by curves and by particular examples.

3. What does Professor Marshall understand by the term "Normal"?

What are the chief differences in Normal Value under conditions of Monopoly and Competition respectively?

4. Show how the quantity theory of money may be applied to the case of inconvertible paper.

Is the premium on gold in this case an exact measure of the depreciation?

5. State carefully the exceptions to Free Trade theoretically approved of by Adam Smith, and indicate the practical difficulties.

6. Enumerate, with very brief explanations, the expedients of the Mercantile System to promote a favourable balance of trade.

Contrast the general views of Adam Smith on the real advantages of foreign trade.

7. Trace the principal stages in the development of Deposit Banking.

8. Describe (a) the general conditions, and (b) the immediate causes, that may lead to Commercial Crises.

9. What is the principle of *Laissez-faire*?

Notice the principal exceptions allowed by Mill.

10. Give a brief critical account of Adam Smith's *first* rule with regard to taxes in general.

## THEORY, HISTORY, AND ART OF EDUCATION

FOR M.A. AND SCHOOLMASTER'S DIPLOMA.

FIRST PAPER.

FRIDAY, 30th March 1900.—9 to 11 A.M.

*Not more than EIGHT Questions to be answered.*

1. Discuss, from the Educator's point of view, the relation of body and mind. Consider, in this connection, manual instruction.

2. By what criterion would you decide as to educational values? Using such, sketch an Instruction-Plan for the Primary School.

3. Explain the formation of General Concepts, and exemplify the principles of method thence deduced.

4. Justify the importance of Nature-Knowledge, not only in its immediate effects, but also in its later educative value.

5. Make clear the function of Language-Study in the building up of Mind.

6. Expound an Educational Theory of Interest, and mark off clearly its limits.

7. Trace the Parallelism of the Intellectual and Ethical in Education, and show therefrom the exalting of the Educator's function.

8. What is the place of History-Teaching in the Upper-Primary School? Suggest definite methods to ensure reality.

9. The "Present to Sense" Rule applies even to the teaching of Grammar. Show this fully as being more than merely a use of the blackboard.

10. Take *six* of the Rules of Method and apply them to the teaching of—

- (a) Proportion; or,
- (b) Geography.

## SECOND PAPER.

FRIDAY, 30th March 1900.—11.30 to 1.30 o'clock.

1. Describe the chief service which Bacon rendered to Education in the seventeenth century; and state briefly what is meant by calling Comenius "the Bacon of modern education."

2. "Comenius determined, nearly three hundred years ago, *with an exactness that leaves nothing to be desired*, the division of the different grades of Instruction." Explain this statement, and critically examine the portion italicised.

3. Compare and contrast Comenius and Pestalozzi as thinkers and workers in the field of Education.

4. (a) "Locke's faith in the better nature of children is one of the really majestic notes that have been struck in the history of Education."

(b) "The moral pedagogy of Locke is certainly faulty in that it is not sufficiently addressed to the heart and to the potency of loving, which is already so great in the child."

Examine these two estimates of Locke's attitude and spirit as expressed in his *Thoughts*.



5. Give the substance of Locke's teaching upon :—(1) "Early training to self-denial"; (2) "The right management of praise and blame"; (3) "Seasons of aptitude and inclination"; (4) "Training in sentiments of Humanity"; (5) "Good Breeding. Add a brief critical note under each head.

6. Explain carefully how you would teach English Literature to pupils of the age of fourteen. What English authors, and what works of these authors, do you consider most suitable at this stage? Or,

Give notes of the method of teaching an abstract subject like English Grammar in its initiatory stage.

7. Explain briefly, with reference to their context, any *five* of the following passages from Locke's *Conduct* :—

(1) "The faculty of reasoning seldom or never deceives those who trust to it."

(2) "The business of education."

(3) "Nature commonly lodges her treasure and jewels in rocky ground."

(4) "He that begins with the calf may carry the ox."

(5) "It holds in the struggles of the mind, as in those of war, *Dum putant se vincere, vicere.*"

(6) "There is, I know, a great fault among all people of principling their children and scholars."

(7) "The shortest and easiest way of reading books with profit."

(8) "These, and such as these, are the truths we should endeavour to find out and store our minds with."

THIRD OR ADDITIONAL PAPER—*Schoolmaster's Diploma only.*

SATURDAY, 31st March 1900.—9 to 11.30 A.M.

1. (a) "The thought of any age determines the education of the age which is to succeed it."

(b) “To a new logic almost necessarily corresponds a new pedagogy.”

Discuss these statements; and illustrate your answer from the changes which have taken place in the theories of Education throughout ancient and modern times.

2. Describe, with some fulness, the two educational instruments by means of which the Hellenic races endeavoured to realise their ideals of life.

3. Describe and criticise the aims and methods of Isocrates; and compare them, briefly, with those of Quintilian.

4. Give the substance of the passage from Cicero's *De Oratore* which describes the course of training pursued by the student of oratory.

Or,

Explain the following terms and passages in connection with Roman Education:—*Cogor et e tabula pictos cognoscere mundos—educare—gravitas—humanitas—loci communes—ludus—morbis antiquis stet res Romana virisque—non tam in gremio educatos quam sermone matris—schola—toga virilis.*

5. State and examine Quintilian's views upon:—(1) “The natural endowments and dispositions of boys”; (2) “The importance of Music and Geometry for the training of the orator”; (3) “The respective duties of teachers and learners.”

6. “The noble moral glow that pervades it, the mood of magnanimity in which it is conceived and written, and the faith it inculcates in the powers of the young human spirit, if rightly nurtured and directed,—these are merits everlasting.” Discuss this eulogy of Milton's *Tractate*.

7. Write out notes of a lesson, for pupils of the age of twelve, upon:—

(a) The High Street of Edinburgh;

Or,

(b) Sir Walter Scott;

Or,

(c) The Atlantic Ocean.

8. Sketch the method of a lesson introducing a class to Proportion in Arithmetic.

A Thesis on either :—

The meaning of the Renaissance as it affected the work of Schools ;

Or,

The place and significance of Science in a Secondary School curriculum.

## PHILOSOPHY OF LAW.

*See Papers under Faculty of Law.*

## III.—SCIENCE.

### MATHEMATICS.

WEDNESDAY, 4th April 1900.—3 to 5 P.M.

1. The sum of any two sides of a triangle is greater than the third, and the difference less.

State the limiting cases of these theorems.

$A_1 A_2 A_3 A_4 A_5 A_6 A_7$  is a convex heptagon of perimeter  $S$ . If  $S'$  be the perimeter of the crossed heptagon  $A_1 A_3 A_5 A_7 A_2 A_4 A_6 A_1$ , shew that  $S'$  lies between  $\frac{1}{3}S$  and  $2S$ . Assign a closer lower limit, if you can.

2. Parallelograms on the same base and between the same parallels are equal in area ; and parallelograms having equal bases and equal altitudes are equal in area.

$ABDE$ ,  $BCGH$ ,  $CAJK$  are parallelograms. If  $DE$  and  $KJ$  meet in  $L$ , and  $AL$  be equal and parallel to  $BH$  and  $CG$ , prove

that the area of one of the three parallelograms is equal to the sum of the areas of the other two.

3. The distance of the orthocentre of a triangle from the vertex is double the distance of the circumcentre from the base.

If the base and vertical angle of a triangle be given, find the locus (i) of the centroid, (ii) of the orthocentre.

4. Prove that the sum of the squares on the sides of a triangle is double the sum of the squares on the median and on half the base; and state, without proof, a generalisation of this theorem.

$A$  and  $B$  are fixed points, and  $L$  a fixed straight line, to find a point  $P$  on  $L$  such that  $AP^2 + BP^2$  is a minimum.

5. If a quadrilateral be circumscribed about a circle, shew that the sum of one pair of opposite sides is equal to the sum of the other pair.

Prove that, if the sum of one pair of opposite sides of a quadrilateral is equal to the sum of the other pair, then a circle can be inscribed in the quadrilateral; and that if the quadrilateral be cyclic, the radius of this circle is  $\sqrt{(abcd)/s}$ , where  $a, b, c, d$  are the lengths of the sides, and  $s$  the semiperimeter.

6. Prove that, if in two triangles,  $ABC, A'B'C'$ ,  $AB:BC = A'B':B'C'$ , and  $BC:CA = B'C':C'A'$ , the triangles are similar.

State, without proof, a corresponding theorem for quadrilaterals.

$AB$  is a diameter of a circle,  $Q$  a point on the tangent at  $B$ ;  $AQ$  meets the circle in  $P$  and  $BP$  meets a parallel through  $Q$  to  $AB$  in  $R$ : prove that  $QB^2 = AB.QR$ .

7. Prove that every plane section of a right circular cone is a curve which has the property that the ratio of the distance of every point  $P$  on it from a certain fixed point to the distance of  $P$  from a certain fixed straight line is constant.

Prove that the locus of the foci of all the parabolic sections of a given right circular cone whose semivertical angle is  $\alpha$

is another right circular cone of semivertical angle  $\beta$ , where  $\tan \beta = \sin \alpha \cos \alpha / (1 + \sin^2 \alpha)$ .

Or, as an alternative,

Explain how complex numbers are represented by means of vectors in Argand's diagram. Give a construction for the vector which represents a sum of given complex numbers; and prove that  $|z_1 + z_2 + \dots + z_n| \geq |z_1| + |z_2| + \dots + |z_n|$ .

If  $\omega$  denote the imaginary  $n^{\text{th}}$  root of  $+1$  which has the least positive amplitude, prove geometrically, or otherwise, that  $1 + \omega + \omega^2 + \dots + \omega^{n-1} = 0$ .

8. Find an expression for  $\sin \frac{1}{2}A$  in terms of  $\sin A$ : and determine the ambiguities of sign when  $-3\pi > A > -\frac{7}{2}\pi$ .

Solve as completely as you can the following:—

- (i)  $\cos 5x + \sin x = 0$ ;
- (ii)  $\sin x = (2 - \cot x)(1 + \cos x)$ ;
- (iii)  $\sin x + \sin y = 1$ ,  $\cos x - \cos y = \sqrt{3}$ .

9. Find a formula adapted to logarithmic computation for calculating an angle of a triangle whose sides are given.

In any triangle prove

- (i)  $a^3 \sin(B - C) + b^3 \sin(C - A) + c^3 \sin(A - B) = 0$ .
- (ii)  $\frac{b-c}{a} \cos^2 \frac{A}{2} + \frac{c-a}{b} \cos^2 \frac{B}{2} + \frac{a-b}{c} \cos^2 \frac{C}{2} = 0$ .

10. Express the length of the bisector of the vertical angle of a triangle in terms of the base and the base angles.

If  $x, y, z$  be the lengths of the three bisectors, prove

$$1 \left| x \sin \frac{A}{2} + 1 \right| y \sin \frac{B}{2} + 1 \left| z \sin \frac{C}{2} = 2 \right| r.$$

11. Find an expression for the area of the triangle, the co-ordinates of whose vertices are  $(x_1 y_1)$   $(x_2 y_2)$   $(x_3 y_3)$ ; and deduce the equation to the straight line which passes through two points whose co-ordinates are given.

$A, A'$ ;  $B, B'$  are pairs of points—one pair on the axis of  $x$ , the other on the axis of  $y$ ; and the distances of the points

from the origin are  $a, a', b, b'$  respectively. If  $L$  be the intersection of  $AB'$  and  $A'B$ , and  $M$  and  $N$  the middle points of  $AB$  and  $A'B'$  respectively, prove that  $L, M, N$  are collinear provided

$$aa'(b^2 + b'^2) = bb'(a^2 + a'^2).$$

*Or, as an alternative,*

If  $P, p$  be points on an ellipse and on the circle described on its minor axis as diameter, and if  $Pp$  be parallel to the major axis, prove that the tangents to the ellipse and circle at  $P$  and  $p$  meet on the minor axis.

If  $P, p$  be points on an ellipse and on the circle described on its major axis as diameter, such that  $Pp$  is parallel to the minor axis, prove that the perpendicular from the focus  $F$  on the tangent to the circle at  $p$  is equal to  $FP$ .

**12.** Define the polar of a point with reference to a conic; and from your definition find its equation for the ellipse  $ax^2 + by^2 = 1$ , the co-ordinates of the point being  $(x', y')$ .

If  $y_1, y_2$  be the ordinates of the points of contact of the tangents from  $(x', y')$  to the parabola  $y^2 - 4ax = 0$ , prove that  $y_1 y_2 = 4ax'$ .

*Or, as an alternative,*

Find the volume of a frustum of a pyramid in terms of its altitude and the areas of its ends.

Prove that the sum of the squares of the edges of a tetrahedron is equal to four times the sum of the squares on the joins of the mid-points of opposite edges.

THURSDAY, 5th April 1900.—9 to 11 A.M.

**1.** State the Algebraic Law of Distribution in a form applicable directly to the product of any number of factors.

How many types are there of products of the fourth degree



of five letters  $x, y, z, u, v$ , and how many terms are there of each type?

Express  $(y-z)(y+z)^3 + (z-x)(z+x)^3 + (x-y)(x+y)^3$  (i) as a sum of simple terms; (ii) as a product of linear factors.

2. Shew that, if  $ax^2 + 2hxy + by^2 + 2gx + 2fy + c$  can be resolved into a product of linear factors, then  $abc + 2fgh - af^2 - bg^2 - ch^2 = 0$ .

Factorise (i)  $y^2(x^2 + y^2)^2 + z^2(x^4 - y^4) - z^4x^2$ ;

(ii)  $2x^2 - 7xy + 3y^2 + 5x - 5y + 2$ .

3. Establish the ordinary rule for finding the G.C.M. of two integral functions of  $x$ .

The equation  $4x^4 + x^2 - 3x + 1 = 0$  has a repeated root: find this root, and also the other roots.

4. Find the conditions that the roots of the quadratic equation  $ax^2 + bx + c = 0$  be (i) equal; (ii) numerically equal, but of opposite sign.

Solve the following systems:—

(i)  $x^2 + y + 1 = x + y^2 + 1 = xy$ ;

(ii)  $(b-c)x + (c-a)y + (a-b)z = (b+c)x + (c+a)y + (a+b)z = 0$ ,  
 $ax + by + cz = a^2 + b^2 + c^2 - bc - ca - ab$ .

5. When is  $\sqrt{a + \sqrt{b}}$ , where  $a$  and  $b$  are commensurable and  $\sqrt{b}$  incommensurable, expressible in the form  $\sqrt{x} + \sqrt{y}$ , where  $x$  and  $y$  are commensurable?

Prove that

$$\sqrt{2} \sqrt{\sqrt{a} + \sqrt{a-b-c+2\sqrt{bc}}} \\ = \sqrt{(\sqrt{a} + \sqrt{b} - \sqrt{c}) + \sqrt{(\sqrt{a} - \sqrt{b} + \sqrt{c})}}.$$

Shew that the modulus of

$$(a + \beta i)/(\gamma + \delta i) + (\gamma - \delta i)/(a - \beta i)$$

is  $\sqrt{(a^2 + \beta^2)}/\sqrt{(\gamma^2 + \delta^2)} + \sqrt{(\gamma^2 + \delta^2)}/\sqrt{(a^2 + \beta^2)}$ ; and remark on any special feature of this result.

6. Shew how to get approximations of various orders to a rational function of  $x$ , say  $y = x(x-1)^2/(x^2+1)$ , when  $x$  is very large: and use your results in tracing the graph of this function.

Trace the graphs of (i)  $y = (x-1)^3$ ; (ii)  $y = 1/(x-1)^2$ .

7. Find an expression for the number of  $r$ -combinations that can be formed with  $p$  like and  $q$  unlike things.

The number of M.A. subjects is 29. Suppose that the groups of semicompulsory subjects were (a) Latin and Greek, (b) Mathematics and Natural Philosophy, (c) English and History, (d) Logic and Moral Philosophy; and that the regulations were simply that each candidate must take at least one subject from each of the groups (a), (b) (c), (d); two subjects from at least one of these four groups; and the rest of his seven subjects without restriction. In how many different ways may the degree be taken?

*Or, as an alternative,*

Prove that the Geometric mean of  $n$  positive quantities does not exceed their Arithmetic mean.

If  $x > y > z$ , prove that  $3xyz < xy^2 + yz^2 + zx^2 < x^2y + y^2z + z^2x$ .

8. Assuming that  $L \lim_{x \rightarrow \infty} (1 + 1/x)^x$  is finite and equal to  $e$ , say, find  $L \lim_{x \rightarrow 0} (a^x - 1)/x$ .

If the tangent at any point  $P$  on the graph of  $y = a^x$  meet the axis of  $x$  in  $T$ , shew that the projection of  $PT$  on the axis of  $x$  is constant.

Evaluate  $L \lim_{x \rightarrow 0} x \sin x \log x$ .

9. Prove the Binomial Theorem, when the index is any real commensurable positive number.

Find the Coefficient of  $x^r$  in the expansion of  $(4 - 7x + x^2)/(1 - x)(1 - 2x)(1 + x)$  in ascending powers of  $x$ .

10. Prove, by means of De Moivre's Theorem, or otherwise, that  $\cos n\theta = \cos^n \theta - {}_nC_2 \cos^{n-2} \theta \sin^2 \theta + {}_nC_4 \cos^{n-4} \theta \sin^4 \theta - \dots$ ,  $n$  being a positive integer.

Express  $\cos^7 \theta \sin^5 \theta + \cos^5 \theta \sin^7 \theta$  as a sum of sines of multiples of  $\theta$ .

If  $A + B + C = \pi$ , prove that

$$1 + \cos 4A + \cos 4B + \cos 4C = 4 \cos 2A \cos 2B \cos 2C.$$

11. Define the eccentric circle of a point with respect to a conic ; and use it to prove that the ratio of the rectangles under the segments of two chords whose directions are given does not depend on the position of their point of intersection.

What does this become for a parabola, if one of the chords is a diameter ?

What are the focus, directrix, and eccentricity of a conic which is (i) a circle ; (ii) two intersecting straight lines ; (iii) two parallel lines.

*Or, as an alternative,*

Find the polar equation of a conic, when the focus is the pole and the major axis the prime radius vector.

Prove that the semi-latus-rectum is a harmonic mean between the segments of any focal chord.

12. Find the equation to the tangent to the parabola  $y^2 = 4ax$  which is parallel to  $y = mx$  ; and calculate the co-ordinates of the point of contact.

Find the equation to the locus of a point the tangents from which to the parabola  $y^2 = 4ax$  are inclined at an angle of  $45^\circ$ . What does the equation represent ?

*Or, as an alternative,*

Prove that the tangents drawn from any point to a conic subtend equal or supplementary angles at the focus.

$L$  and  $M$  are given straight lines : find the locus of the Focus of a parabola which touches both  $L$  and  $M$  and whose axis is perpendicular to  $L$ .

## NATURAL PHILOSOPHY.

FRIDAY, 6th April 1900.—9 to 11 A.M.

(Not more than EIGHT questions are to be attempted.)

1. Define velocity and angular velocity. Find the relation

between the speed of a point moving in a circle and its angular velocity about (1) the centre, (2) a point on the circumference.

A wheel of radius  $a$  rolls with speed  $v$  along the ground. Find in magnitude and direction the velocity of a point on the rim and  $\frac{1}{2}a$  from the ground.

2. Given the velocities of  $A$  relative to  $B$  and of  $B$  relative to  $C$ , state and prove the method of finding the velocity of  $C$  relative to  $A$ .

A steamer  $A$  is 34 sea-miles east of another steamer  $B$ . If  $A$  is making 15 knots northward and  $B$  8 knots eastward, find when they will be nearest and their then distance apart.

3. Define the moment of a force, and prove that the moment, about a point in their plane, of two forces acting on a particle is equal to the moment of their resultant.

Resolve a given force acting in a given direction on a point of a rigid body into two equal forces acting through two other given points.

4. Find the values of the horizontal and vertical distances, from the point of projection, of a projectile at any time, and the greatest range on an inclined plane through the point of projection.

If a gun have a muzzle-velocity  $\sqrt{2gh}$  and is fired from the top of a hill of height  $a$ , find the distance, from the gun, of the farthest object it can reach on the plain at the foot of the hill.

5. Define work, and find the work done in dragging a body of weight  $w$  up a rough inclined plane whose height is  $h$ , whose base is  $b$ , and whose coefficient of friction is  $\mu$ .

Prove that the speed acquired in falling, from rest, always in the same plane from  $A$  to  $B$  down a series of plane slopes of the same roughness, is independent of the number of slopes, provided the joins of the slopes be smoothly rounded off so that no loss of energy takes place in changing from one slope to the next.

6. What is a conical pendulum? Find its period in terms of the vertical distance of the bob below the point to which the string is attached.

If a particle, fastened to a point by a light string, move in a vertical plane under gravity, find the speed and pull of the string when the particle is at its lowest point in order that the string may be just not slack when the particle is at the highest possible point.

7. Find the resultant pressure of a fluid on a body immersed in it. What are the conditions of equilibrium of a body supported partly by a string and partly by water?

A cylinder floats with its axis horizontal and half its cross section immersed in water. One end is held up by a string. If the half length of the cylinder next the string be of specific gravity  $\cdot 8$ , find that of the other half for equilibrium.

8. Define the deviation and dispersion of a beam of light passing through a prism. If  $i$  be the angle of the prism and  $D$  the deviation of a ray passing symmetrically through a prism of index of refraction  $\mu$ , prove  $\mu \sin \frac{i}{2} = \sin \frac{D+i}{2}$ .

Explain and contrast the term achromatic applied to an objective and to an eye-piece of a telescope.

9. Explain, and give instances of, interference, in (i) light; (ii) sound.

Explain, with the help of diagrams, the production of colour in the case of (i) a soap-film; (ii) a diffraction grating.

10. What is meant by critical temperature and by critical pressure for a gas or vapour? Illustrate by means of a diagram.

A vessel of constant volume contains a liquid and its vapour. If the temperature be raised, use your diagram to find whether some liquid evaporates or some vapour liquefies, showing that the one that is already in excess will usually increase.

11. Define carefully the terms *charge*, *potential*, and *capacity*

as applied to a Leyden jar, and express the energy of the jar in terms of any two of them.

Find the capacity of a condenser or Leyden jar, consisting of two concentric spheres of radii 5 and 5.2 inches separated by air.

12. Give Kepler's Laws for the motion of the planets and the conclusions drawn from them.

Explain, with diagrams, "stationary points" and "points of greatest elongation" of a planet. Have all planets such points?

FRIDAY, 6th April 1900.—11.30 A.M. to 1.30 P.M.

[*Not more than EIGHT questions to be attacked.*]

1. What are the objective realities in the physical universe, and why do we claim that character for them?

Contrast their characteristics with those of Space and of Time.

2. Distinguish carefully between Mass and Weight; and point out how Newton proved that, in any locality, they are directly proportional.

3. Give the essence of Newton's Scholium to Lex III, and point out how he wholly anticipated D'Alembert, and how nearly complete was his enunciation of the Conservation of Energy.

4. How is the interdiffusion of gases to be explained, and how are its laws to be experimentally determined?

5. State, generally, the present limits of our knowledge as to the divisibility of matter.

6. Describe the nature of any one plausible attempt to account for gravitation.

7. What is the measure of the compressibility of a substance? How can it be experimentally determined for (1) glass, (2) water?



8. Distinguish between surface-waves and ripples, and give an approximation to the length of the slowest-moving wave on water.

9. Define, generally, what is meant by specific heat. Why do we speak of the two specific heats of a *gas*, as contrasted with the *one* of a solid or a liquid? What is their ratio in the case of air, and how can it be found by experiment?

10. State, and trace the origin of, the chief features of the primary and secondary rainbow; and contrast them with the corresponding features of halos.

11. What is the characteristic difference between the fundamental phenomena of electric and of magnetic attraction after the bodies concerned have come in contact:—and to what cause is it provisionally assigned?

12. State, and illustrate, the analogies between the flow of electricity, of heat, and of ordinary fluids, pointing out the causes to which they are figured as due:—and showing how the ideas of conductivity and of resistance are directly suggested.

## CHEMISTRY.

*See Papers under Faculty of Medicine.*

## BOTANY.

TUESDAY, 27th March 1900.—10 A.M. to 12 NOON.

1. Give an account of the normal process of fertilisation in an Angiosperm. How does chalazogamy differ from the normal? Give an account of it.

2. Write an account of the life-history of *Marchantia*.

3. What are the characters by which the *Filicineae*, the *Equisetineae*, and the *Lycopodineae* are distinguished?

4. Describe the phenomena of Carbon-Assimilation in plants.

5. What are the grounds for regarding the Orchideae as the highest members of the Monocotyledones? Give an account of the flower-structure in this family.

## PRACTICAL BOTANY.

WEDNESDAY, 28th March 1900.—1 to 4 P.M.

1. Make one transverse section of specimen *A*. Sketch and describe it, naming its parts.
2. Sketch, describe, and identify specimens *B*, *C*, *D*.
3. By means of the Flora provided, identify specimen *E*.
4. Refer specimens *F*, *G*, to their Natural Orders.
5. Sketch, compare, and identify specimens *H*, *I*.

## ZOOLOGY.

TUESDAY, 27th March 1900.—1 to 3 o'clock.

1. Enumerate in tabular form the sub-divisions of the Chordata, as far as, and including Classes. Give the essential facts which determine the position of the various boundary lines.

2. What is the *ectoderm* or *epiblast* of a chick embryo? To what structures does it give rise? Indicate the part taken by the ectoderm in the formation of the eye and auditory organ.

3. What biological import has been ascribed to the following:—the white tail of a rabbit, the black and yellow colour bands of a wasp, the resemblance between butterflies of different families, the adjustable colouration of a frog, the gorgeous plumage of a peacock?

4. Give an account of the Echinodermata.

5. Answer *one* of the following:—

- (a) Describe the structures by which the food of Snail and Cockroach is divided into small pieces.

Compare and contrast the breathing organs of the same animals.

- (b) In what great distributional region are Cape Colony and the Transvaal included? Name and comment on the boundaries of that region, and give some account of its fauna, laying special stress on forms which are found nowhere else.

## GEOLOGY AND MINERALOGY.

MONDAY, 26th March 1900.—1 to 3 o'clock.

1. Describe *five* of the chief rock-forming minerals.
2. How would you distinguish between Slate, Schist, and Shale?
3. Draw *one* section to illustrate the following structures:—Anticline, Syncline, Unconformity, Overlap, Normal Fault, Outlier, and Inlier.
4. Define the following terms:—Fan-shaped structure, Devit-rification, Base-level of Erosion, Break in Succession, Homotaxis.
5. Describe the structure of a Trilobite.
6. Describe briefly the Chalk rocks of England, and give some account of their fossil remains.
7. Give the geological range of Pterosaurs, Deinosaur, Ammonites, Belemnites, Sigillarioids, Eurypterids, and Graptolites.

## IV.—HISTORY AND LAW.

## BRITISH HISTORY.

## FIRST PAPER.

MONDAY, 2nd April 1900.—12 to 2 o'clock.

*N.B.*—*Not more than SEVEN questions to be attempted, and not more than FOUR in either section.*

## SECTION I.

1. Estimate the results of the Roman occupation in Britain.
2. What influences on the development of England may be traced to the Danish invasions and conquest?
3. What circumstances led up to the battle of Carham, and what consequences resulted from it? Illustrate by a map.
4. Contrast the reigns of Stephen in England and David I in Scotland.
5. Compare the quarrel between Henry I and Anselm with that between Henry II and Becket.
6. "Bad as he was, and because of his badness, John was a benefactor to England." Discuss this statement.
7. Compare the political condition of England and Scotland at the accession of Edward I.
8. What were Edward I's relations to his baronage and his clergy?

## SECTION II.

9. What results to England may be traced to the Hundred Years' War?
10. Explain the chief causes and results of the rising of 1381.
11. Trace in the career of James I of Scotland the effects of his education in England.
12. What were the main results to England of the "Wars of the Roses"?

13. What is implied in the expression "The Tudor Monarchy"?

14. Describe Henry VIII's policy towards Scotland, and account for its failure.

15. Contrast the religious revolution under Henry VIII with that under Edward VI.

16. Show how England was affected in the sixteenth century by the great geographical discoveries of the age.

17. Describe the relations of Richard II, Henry VII, and Henry VIII to Ireland.

18. "Elizabeth knew how to identify herself with her people." Illustrate this statement from the events of her reign.

SECOND PAPER.

MONDAY, 2nd April 1900.—3 to 5 P.M.

N.B.—*Not more than SEVEN questions to be attempted, and not more than FOUR in either Section.*

SECTION I.

1. Illustrate the influence upon James I's conduct in England of his Scottish training and experiences.

2. What do you know of Bate's case, Darnel's case, the Habeas Corpus Act, the impeachment of Danby, and Temple's Constitution?

3. Compare the foreign policy of Charles I with that of his father.

4. Examine the part played by Scottish troops in the Civil War of Charles I's reign.

5. Explain carefully the difficulties of Oliver Cromwell in his relations with Parliament during his Protectorate.

6. Compare briefly the effects of the Restoration in England, Scotland, and Ireland respectively.

7. Account for the collapse of the Whig party in England in the last years of Charles II, and for its revival at the fall of James II.

8. Describe and explain the relations between England and the United Provinces in the reign of Charles II.

## SECTION II.

9. In what sense is it true that the Revolution of 1688-9 was the chief cause of the Union between England and Scotland in 1707?

10. Analyse the motives of England in taking part in the War of the Spanish Succession, and estimate the value of the advantages which she gained in the Treaty of Utrecht.

11. Was the exclusive alliance of George I with the Whig party either politic or necessary?

12. What was Great Britain fighting about in 1759, and with what justice has that year been called "the year of victories"?

13. Note the chief stages in the growth of Irish discontent in the eighteenth century.

14. Estimate the significance of the ministerial changes in the years 1782-1784.

15. Show the importance of British naval successes in the war against the French Republic and Empire.

16. Examine the claims of Sir Robert Peel to be regarded as a great statesman.

## CONSTITUTIONAL LAW AND HISTORY—

### ROMAN LAW—PUBLIC LAW.

*See Papers under Faculty of Law.*



ART AND ARCHÆOLOGY.

FIRST PAPER—HISTORICAL.

FRIDAY, 30th March 1900.—3 to 5 P.M.

*Not more than SEVEN questions to be attempted.*

1. Describe the Egyptian Mastaba tomb of the Old Empire.
2. Give some idea of the forms of art, including architecture, that flourished in the era of the great Egyptian conquerors of the New Empire.
3. Write short notes on each of the following Greek sculptors:—Polycleitus, Myron, Lysippus. Mention the period and the school to which each belongs, and name one or two of their works.
4. Give a succinct account of the sculptured decoration of the Parthenon.
5. Describe the Roman Thermæ, and mention what special architectural forms were developed in connection with them.
6. Describe the mosaic decoration of any one of the principal buildings at Rome or Ravenna in which this form of work is represented.
7. Give a list (without indicating their relative positions) of the principal buildings of a mediæval monastery as shown on the Plan of St. Gall.
8. What famous Italian artists exercised their talents at Padua and at what periods respectively? Mention the most important of their works that are to be seen there.
9. Write an account (with dates) of Masaccio, noticing especially the fresco of the "Tribute Money."
10. Locate in their proper schools and periods the following artists:—Botticelli; Carpaccio; Melozzo da Forlì; Correggio; Simone Martini; Luini; Donatello; Giovanni Santi; Jacopo della Quercia; Squarcione.

11. Sketch, with dates, the life of Giovanni Bellini.

12. Give some idea of the sculpture in the medallions round the base of Giotto's Campanile at Florence.

13. Sketch the career of Michelangelo as a sculptor, noticing some of his principal works.

14. Mention the principal masters of landscape painting in the seventeenth century, and show how their influence extends to modern times.

## SECOND PAPER.—CRITICAL AND TECHNICAL.

SATURDAY, 31st March 1900.—9 to 11 A.M.

*Not more than SEVEN questions to be attempted.*

1. What considerations should govern the decorative treatment respectively of a mediæval sword-hilt, and a gas-bracket?

2. Criticise, from the point of view of the suitability of ornament to the thing adorned, the decoration of Greek vases and of Greek coins.

3. What architectural results followed in Mesopotamia (1) from the nature of the country, (2) from the character of the available building material?

4. In what forms can we trace the survival of the open columned court of the Græco-Roman house in early Christian and mediæval architecture?

5. Write a note on the jewelled book-covers of mediæval times.

6. Indicate the characteristic merits of the sculpture on the French Gothic cathedrals, and explain its position on the buildings.

7. Characterise the styles in painting of Mantegna, Perugino, and Giorgione.

8. Briefly indicate the position in the scheme of feigned architecture, the action, and the artistic merits, of the nude

figures of youths by Michaelangelo on the roof of the Sistine Chapel.

9. What are the artistic merits, and what the defects, of the pictures and engravings of Albert Dürer?

10. Briefly trace the history of the guild system in connection with artistic production from the Gothic period to the time of Louis XIV.

11. Comment, from the point of view of the modern painter, on the remark by Constable that "there is nothing ugly in Nature."

12. How was the "style Louis XV." formed, and how does it differ from that known as the "style Louis XVI.?"

13. Describe carefully *any three* of the following:—The "Hermes" by Praxiteles; Giotto's fresco of "Herod's Birthday Feast"; Verrocchio's "Colleone" monument; Titian's "Presentation of the Virgin"; Rembrandt's etching of "Christ Healing the Sick"; Velasquez's "Tapestry Weavers."

## Examination Papers for Degree of M.A. with Honours.

### (A)—CLASSICS.

#### L A T I N.

MONDAY, 2nd April 1900.—2 to 5 o'clock.

Translate:—

1. Hæc locutus vocat, quo cum bene sæpe libenter mensam sermonesque suos rerumque suarum materiem partit, magnam cum lassus diei partem fuisset de summis rebus regundis

consilio indu foro lato sanctoque senatu ;  
 cui res audacter magnas parvasque iocumque  
 eloqueretur, cuncta simul malaque et bona dictu  
 evomeret, si qui vellet, tutoque locaret,  
 prudenter quod dicta loquive tacereve posset ;  
 quo cum multa volup ac gaudia clamque palamque ;  
 ingenium cui nulla malum sententia suadet  
 ut faceret facinus levis aut malus : doctus, fidelis,  
 suavis homo, facundus, suo contentus, beatus,  
 scitus, secunda loquens in tempore, commodus, verbum  
 paucum, multa tenens antiqua sepulta, vetustas  
 maiorum veterum leges divomque hominumque,  
 quae faciunt mores veteresque novosque tenentem.

2. Deinde VIII. K. Febr. : ‘ tantum modo Gnaeus noster ne, ut urbem ἀλογίστως reliquit, sic Italiam relinquat.’ eodem die das alteras litteras, quibus mihi consulenti planissime respondes ; est enim sic : ‘ sed venio ad consultationem tuam. si Gnaeus Italia cedit, in urbem redeundum puto ; quae enim finis peregrinationis ?’ hoc mihi plane haesit, et nunc ita video, infinitum bellum iunctum miserrima fuga, quam tu peregrinationem ὑποκορίζῃ. sequitur χρησμός VI. K. Februarias : ‘ ego, si Pompeius manet in Italia nec res ad pactionem venit, longius bellum puto fore ; sin Italiam relinquit, ad posterum bellum ἄσπονδον strui existimo.’ huius igitur belli ego particeps et socius et adiutor esse cogor, quod et ἄσπονδον est et cum civibus. deinde VII. Idus Febr., cum iam plura audires de Pompeii consilio, concludis epistolam quandam hoc modo : ‘ ego quidem tibi non sim auctor, si Pompeius Italiam relinquit, te quoque profugere ; summo enim periculo facies nec rei publicae proderis, cui quidem posterius poteris prodesse, si manseris.’

3. Quo malo perterriti subito oppidani saxa quam maxima possunt vectibus promovent praecipitataque e muro in musculum devolvunt. ictum firmitas materiae sustinet, et quicquid incidit

fastigio musculi elabitur. id ubi vident, mutant consilium : cupas taeda ac pice refertas incendunt easque de muro in musculum devolvunt. involutae labuntur, delapsae a lateribus longuriis furcisque ab opere removentur. interim sub musculo milites vectibus infima saxa turris hostium, quibus fundamenta continebantur, convellunt. musculus ex turri latericia a nostris telis tormentisque defenditur ; hostes ex muro ac turribus submoventur ; non datur libera muri defendendi facultas.

4. Ecce autem duro fumans sub vomere taurus concidit et mixtum spumis vomit ore cruorem extremosque ciet gemitus. it tristis arator, inhaerentem abiungens fraterna morte iuvenum, atque opere in medio defixa relinquit aratra. non umbrae altorum nemorum, non mollia possunt prata movere animum, non qui per saxa volutus purior electro campum petit amnis : at ima solvuntur latera, atque oculos stupor urguet inertis, ad terramque fluit devexo pondere cervix. quid labor aut benefacta iuvant ? quid vomere terras invertisse gravis ? atqui non Massica Bacchi munera, non illis epulae nocuere repostae : frondibus et victu pascuntur simplicis herbae, pocula sunt fontes liquidi atque exercita cursu flumina, nec somnos abrumpit cura salubres.
5. Larga quidem, Drance, semper tibi copia fandi tum, cum bella manus poscunt, patribusque vocatis primus ades. sed non replenda est curia verbis, quae tuto tibi magna volant, dum distinet hostem agger moerorum nec inundant sanguine fossae. proinde tona eloquio, solitum tibi ; meque timoris argue tu, Drance, quando tot stragis acervos Teucrorum tua dextra dedit passimque tropaeis insignis agros. possit quid vivida virtus,

experiar licet ; nec longe scilicet hostes  
quaerendi nobis : circumstant undique muros.  
imus in adversos ? quid cessas ? an tibi Mavors  
ventosa in lingua pedibusque fugacibus istis  
semper erit ?

6. Libertate opus est : non hac, ut quisque Velina  
Publius emeruit, scabiosum tesserula far  
possidet. heu steriles veri, quibus una Quiritem  
vertigo facit ! hic Dama est non tressis agaso,  
vappa lippus et in tenui farragine mendax :  
verterit hunc dominus, momento turbinis exit  
Marcus Dama. papae ! Marco spondente, recusas  
credere tu nummos ? Marco sub iudice palles ?  
Marcus dixit : ita est. adsigna, Marce, tabellas.  
haec mera libertas : hoc nobis pilea donant.  
“ an quisquam est alius liber, nisi ducere vitam  
cui licet, ut voluit ? licet ut volo vivere : non sim  
liberior Bruto ? ”

7. Si tibi sancta cohors comitum, si nemo tribunal  
vendit acersecomes, si nullum in coniuge crimen,  
nec per conventus et cuncta per oppida curvis  
unguibus ire parat nummos raptura Celaeno,  
tu licet a Pico numeres genus, altaque si te  
nomina delectant, omnem Titanida pugnam  
inter maiores ipsumque Promethea ponas :  
de quocumque voles proavum tibi sumito libro.  
quod si praecipitem rapit ambitio atque libido,  
si frangis virgas sociorum in sanguine, si te  
delectant hebetes lasso lictore secures,  
incipit ipsorum contra te stare parentum  
nobilitas claramque facem praeferre pudendis.  
omne animi vitium tanto conspectius in se  
crimen habet, quanto maior qui peccat habetur.



8. Agrippina semper atrox, tum et periculo propinquae accensa, pergit ad Tiberium ac forte sacrificantem patri repperit. quo initio invidiae non eiusdem ait mactare divo Augusto victimas et posteros eius insectari. non in effigies mutas divinum spiritum transfusum: se imaginem veram, caelesti sanguine ortam, intellegere discrimen, suscipere sordes. frustra Pulchram praescribi, cui sola exitii causa sit quod Agrippinam stulte prorsus ad cultum delegerit, oblita Sosiae ob eadem afflictae. audita haec raram occulti pectoris vocem elicuere, correptamque Graeco versu admonuit non ideo laedi, quia non regnaret. Pulchra et Furnius damnantur. Afer primoribus oratorum additus, divulgato ingenio et secuta adseveratione Caesaris, qua suo iure disertum eum appellavit. mox capessendis accusationibus aut reos tutando prosperiore eloquentiae quam morum fama fuit, nisi quod aetas extrema multum etiam eloquentiae dempsit, dum fessa mente retinet silentii impatientiam.

TUESDAY, 3rd April 1900.—9 to 12 o'clock.

Translate:—

1. At accusat C. Cornelii filius et id aequè valere debet ac si pater indicaret. O patrem sapientem! qui, quod praemii solet esse in indicio, reliquerit, quod turpitudinis in confessione, id per accusationem filii suscepit. sed quid est tandem, quod indicat per istum puerum Cornelius? si vetera mihi ignota, cum Hortensio communicata, respondit Hortensius: sin, ut ais, illum conatum Autronii et Catilinae, quum in campo consularibus comitiis, quae a me habita sunt, caedem facere voluerunt: Autronium tum in campo vidimus, sed quid dixi vidisse nos? ego vidi: vos enim tum, iudices, nihil laborabatis neque suspicabamini, ego tectus praesidio firmo amicorum Catilinae tum et Autronii copias et conatum repressi. num quis est igitur qui tum dicat in campum

aspirasse Sullam? atqui si tum se cum Catilina societate sceleris coniunxerat, cur ab eo discedebat? cur cum Autronio non erat? cur in pari causa non paria signa criminis reperiuntur? sed quoniam Cornelius ipse etiam nunc de indicando dubitat, ut dicitis, informat ad hoc adumbratum indicium filium, quid tandem de illa nocte dicit, quum inter falcarios ad M. Laecam nocte ea, quae consecuta est posterum diem Nonarum Novembrium me consule, Catilinae denuntiatione convenit? quae nox omnium temporum coniurationis acerrima fuit atque acerbissima. tum Catilinae dies exeundi, tum ceteris manendi condicio, tum discriptio totam per urbem caedis atque incendiorum constituta est: tum tuus pater, Corneli, id quod tandem aliquando confitetur, illam sibi officiosam provinciam depoposcit, ut cum prima luce consulem salutatum veniret, intromissus et meo more et iure amicitiae me in meo lectulo trucidaret.

2. si fortunatum species et gratia praestat,  
 mercemur servum, qui dictet nomina, laevum  
 qui fodicet latus et cogat trans pondera dextram  
 porrigere "hic multum in Fabia valet, ille Velina;  
 cui libet hic fascēs dabit eripietque curule  
 cui volet importunus ebur." "frater" "pater" adde;  
 ut cuiquest aetas, ita quemque facetus adopta.  
 si bene qui cenat bene vivit, lucet, eamus  
 quo ducit gula; piscemur, venemur, ut olim  
 Gargilius, qui mane plagas, venabula, servos  
 differtum transire forum populumque iubebat,  
 unus ut e multis populo spectante referret  
 emptum mulus aprum. crudi tumidique lavemur,  
 quid deceat, quid non obliti, Caerite cera  
 digni, remigium vitiosum Ithacensis Vlixī,  
 cui potior patria fuit interdicta voluptas.  
 si, Mimnermus uti censet, sine amore iocisque

nil est iucundum, vivas in amore iocisque.  
 vive, vale. si quid novisti rectius istis,  
 candidus imperti; si non, his utere mecum.

3. Quid denique Demosthenes? non cunctos illos tenues et circumspectos vi, sublimitate, impetu, cultu, compositione superavit? non insurgit locis? non figuris gaudet? non translationibus nitet? non oratione ficta dat tacentibus vocem? non illud iusiurandum per caesos in Marathone ac Salamine propugnatores rei publicae satis manifesto docet, praeceptorem eius Platonem fuisse? quem ipsum num Asianum appellabimus plerumque instinctis divino spiritu vatibus comparandum? Quid Periclea? similemne credimus Lysiacae gracilitati, quem fulminibus et caelesti fragori comparant Comici, dum illi conviciantur? quid est igitur, cur in iis demum, qui tenui venula per calculos fluunt, Atticum saporem putent? ibi demum thymum redolere dicant? quos ego existimo, si quod in his finibus uberius invenerint solum fertiliorēve segetem, negaturos Atticam esse, quod plus, quam acceperit, seminis reddat; quia hanc eius terrae fidem Menander eludit. ita nunc, si quis ad eas Demosthenis virtutes, quas ille summus orator habuit, tamen quae defuisse ei sive ipsius natura seu lege civitatis videntur adiecerit, ut affectus concitatus moveat, audiam dicentem, *Non fecit hoc Demosthenes?* et si quid exierit numeris aptius (fortasse non possit; sed tamen si quid exierit) non erit Atticum? melius de hoc nomine sentiant credantque, Attice dicere esse optime dicere.

4. iam nusquam natura latet: pervisimus omne et capto potimur mundo nostrumque parentem stirps sua perspicimus genitique accedimus astris. an dubium est habitare deum sub pectore nostro in caelumque redire animas caeloque venire? utque est ex omni constructus corpore mundus aeris atque ignis summi terraeque marisque,

sic esse et nobis terrenae corpora sortis  
 aethereasque auras animo, qui cuncta gubernat  
 dispensatque hominem? quid mirum noscere mundum  
 si possunt homines, quibus est et mundus in ipsis  
 exemplumque dei quisque est in imagine parva?  
 an quoquam genitos nisi caelo credere fas est  
 esse homines? proiecta iacent animalia muta  
 in terra vel mersa vadis vel in aere pendent,  
 et, quia consilium non est et lingua remissa,  
 omnibus una quies, venter somnusque per artus.  
 unus in inspectus rerum viresque loquendi  
 ingeniumque capax variasque educitur artes  
 hic partus qui cuncta regit, secessit in urbes  
 edomuit terram ad fruges, animalia cepit  
 imposuitque viam ponto, stetit unus in arcem  
 erectus capitis victorque ad sidera mittit  
 sidereos oculos propiusque aspectat Olympum  
 inquitque Iovem: nec sola fronte deorum  
 contentus manet, at caeca scrutatur in alvo  
 cognatumque sequens corpus se quaerit in astris.  
 huic in fata fidem petimus, quam saepe volucres  
 accipiunt trepidaeque boum sub pectore fibrae?  
 an minus est sacris rationem ducere signis  
 quam pecudum mortes aviumque attendere cantus?

WEDNESDAY, 4th April 1900.—2 to 5 o'clock.

1. Translate the following passages, name the author of each, and indicate very briefly their purport:—

- (a) Blande et docte perconctat Aenea quo pacto  
Troiam urbem liquisset.
- (b) postquam lumina sis oculis bonus Ancus reliquit.
- (c) Africa terribili tremit horrida terra tumultu.

(d) nam si curent, bene bonis sit, male malis: quod nunc abest.

(e) cum sciam nihil esse in vita proprium mortali datum, iam qua tempestate vivo χρῆσιν ad me recipio.

(f) dantor publicitus Dossenno et fullonibus cibaria.

(g) iuravi lingua, mentem iniuratam gero.

(h) Iuppiter hibernas cana nive conspuat Alpes.

(i) tum liceat pelagi volucres tardaeque paludis cernere inexplato studio gestire lavandi.

(j) veterem ferendo iniuriam invites novam.

2. Translate, and add a short note, explanatory or critical:—

(a) Illo Vergilium me tempore dulcis alebat Parthenope.

(b) passimque armenta videbant Romanoque foro ac lautis mugire Carinis.

(c) spem macram supplice voto Nunc Licini in campos, nunc Crassi mittit in aedes.

(d) postquam destertuit esse Maeonides Quintus pavone ex Pythagoreo.

(e) nullum numen habes, si sit prudentia. nos te, nos facimus, Fortuna, deam.

(f) ergo supervacua aut perniciose petuntur propter quae fas est genua incutere deorum.

(g) curentur dubii medicis maioribus aegri.

3. Translate, with brief *historical* notes:—

(a) His temporibus Scipio detrimentis quibusdam circa montem Amanum acceptis imperatorem se appellaverat . . . in capita singulorum servorum ac liberorum tributum imponebatur; columnaria, ostiaria, frumentum, milites, arma, remiges, tormenta, vecturae imperabantur.

(b) togam praetextam texi Oppio puto te audisse; nam Curtius noster dibaphum cogitat, sed eum infector moratur.

(c) relinquitur ut, si vincimur in Hispania, quiescamus: id ego contra puto; istum enim victorem magis relinquendum puto quam victum et dubitantem magis quam fidentem rebus suis.

(d) centesimam rerum venalium, post bella civilia institutam, deprecante populo, edixit Tiberius militare aerarium eo subsidio niti.

(e) exin ventum Elephantinen ac Syenen, claustra olim imperii Romani, *quod nunc rubrum ad mare patescit*.

What light does this passage throw upon the date of the composition of the Annals?

(f) igitur incolumi Maecenate proximus, mox praecipuus, cui secreta imperatorum inniterentur, et interficiendi Postumi Agrippae conscius, aetate provecta speciem magis in amicitia principis quam vim tenuit.

4. Give the scansion of the following lines, and discuss it where it is disputable or unusual:—

(a) dabunt malum Metelli Naevio poetae.

eorum sectam sequuntur multi mortales.

(b) draconem, auriferam obtutu adservantem arborem.

(c) iam iam albicascit Phoebus ac recentatur.

(d) quis vostrarum fuit integra aetatula.

(e) teretem comam volantem iactant tibi famuli.

(f) Catonis modo, Galle, Tusculanum

tota creditor urbe venditabat.

(g) Glaucō et Panopeae et Inoo Melicertae.

## HISTORY.

Two questions should be attempted in this group.

1. Give an outline of the relations of Spain and its inhabitants to Carthage and to Rome.

2. Sketch the Roman colonial system both within and without the limits of Italy.



3. Define, as briefly as possible, the question at issue between Caesar and the Senate.
4. Describe the forces engaged and the tactics employed at the battle of Pharsalus.
5. Explain and discuss the following statements of Augustus:—
  - (a) *Ianum Quirinum . . . ter me principe senatus claudendum esse censuit.*
  - (b) *post id tempus (27 B.C.) praestiti omnibus dignitate, potestatis autem nihilo amplius habui quam qui fuerunt mihi quoque in magistratu collegae.*
6. What is the attitude of Tiberius, as described in *Annals* i.-iv., towards (a) the *Lex Maiestatis* and “*delatio*”; (b) proposals for social or sumptuary legislation?

#### LITERATURE.

*Two questions should be attempted in this group.*

1. In what respects did a Roman Theatre differ from a Greek one?
2. What elements or characteristics of “*Satura*” are revealed by the extant fragments of the early writers of it (including Varro)? Which of them reappear, and to what extent, in Horace, Persius, and Juvenal?
3. Give some account of *any two* of the following authors, indicating especially the literary qualities which can be traced in the extant fragments:—Livius Andronicus, Caecilius, Pacuvius, Varro Atacinus.
4. What are the chief religious or philosophical ideas of Virgil? Refer especially to the notion of a past or future golden age, the struggle of Man with Nature, in the *Georgics*, and the Conception of the Soul in *Aen.* vi.
5. “*primum Graecos vertendo eorum artificio adsueverunt, mox imitati sunt, postremo felicissime aemulati*” (Merkel).  
Discuss and illustrate this remark about the Romans.

6. Compare or contrast Juvenal and Tacitus in respect of the circumstances of their lives, their views of life generally, and their attitude towards the social and political system under which they lived.

THURSDAY, 5th April 1900.—9 to 12 o'clock.

For Latin Prose Composition :—

Horne Tooke's opinions might be extreme, but he could not be suspected of treason, while his bold and ready wit made him dangerous game, and his trial was little more than a farce. The accused were defended by Erskine, whose speeches were masterpieces of the advocate's art. To him was opposed Sir John Scott, afterwards Lord Eldon, the genius of irrational law, who vainly strove by prolix and elaborate construction to involve the prisoners in a technical net which at a stroke Erskine rent and flung aside. "How," said a juror, "could I find a man guilty of a crime when it took the attorney-general nine hours to tell us what it was?" Scott, whose love of money earned him afterwards the name of Old Bags, opened a speech with a picture of his own disinterestedness, over which he shed tears. He would have nothing, he said, to leave to his children but his good name. "What," asked a bystander, "is Scott weeping about?" "He is weeping," was the reply, "to think how little he will have to leave his children." In these trials the government was defeated. It excused an error which brought upon it odium and contempt by pleading the wholesome effect of the political revelations. But to put a man on trial for his life without adequate proof of crime for the purpose of creating a political effect is an abuse of a court of justice. One good fruit, however, the trials bore; they confirmed the confidence of the people in the jury as a sufficient safeguard of personal liberty. The credit of the jurymen was not on this occasion shared by

the bench. The chief justice, Kenyon, showed his Tory bias. As a rule English judges, though appointed, till recently, by party, have doffed the partisan in donning the ermine. Regard for professional reputation and the criticism of a strong bar have generally proved a sufficient guard for judicial virtue.

GOLDWIN SMITH.

### GREEK (PRESCRIBED BOOKS).

MONDAY, 2nd April 1900.—9 to 12 o'clock.

Translate:—

1. ἄλλ' ἄγε δὴ σὺν φίλος, μῆτιν ἐμβάλλεο θυμῷ  
παντοίην, ἵνα μὴ σε παρεκπροφύγῃσιν ἄεθλα.  
μήτι τοι δρυτόμος μέγ' ἀμείνων ἢ βίηφιν·  
μήτι δ' αὖτε κυβερνήτης ἐνὶ οἴνοπι πόντῳ  
νῆα θοὴν ἰθύνει ἐρεχθομένην ἀνέμοισιν·  
μήτι δ' ἡνίοχος περιγίγνεται ἡνίοχοιο.  
ἄλλος μὲν θ' ἵπποισι καὶ ἄρμασιν οἷσι πεποιθὺς  
ἀφραδέως ἐπὶ πολλὸν ἐλίσσεται ἔνθα καὶ ἔνθα,  
ἵπποι δὲ πλανῶνται ἀνὰ δρόμον, οὐδὲ κατίσχει·  
ὃς δέ κε κέρδεα εἰδῇ ἐλαύνων ἥσσονας ἵππους,  
αἰεὶ τέρμ' ὁρόων στρέφει ἐγγύθεν, οὐδὲ ἐ λήθει  
ὅπως τὸ πρῶτον τανύσῃ βοέοισιν ἱμᾶσιν,  
ἀλλ' ἔχει ἀσφαλέως καὶ τὸν προὔχοντα δοκεύει.  
σῆμα δέ τοι ἐρέω μάλ' ἀριφραδές, οὐδὲ σε λήσει.  
ἔστηκε ξύλον αὔον ὅσον τ' ὄργυι' ὑπὲρ αἵης,  
ἢ δρυὸς ἢ πεύκης. τὸ μὲν οὐ καταπύθεται ὄμβρῳ,  
λαεὶ δὲ τοῦ ἐκάτερθεν ἐρηρεδάται δύο λευκῷ  
ἐν ξυνοχῇσιν ὁδοῦ, λείος δ' ἐπὶ πόδρομος ἀμφίς·  
ἢ τευ σῆμα βροτοῖο πάλαι κατατεθνηῶτος,  
ἢ τόγε νύσσα τέτυκτο ἐπὶ προτέρων ἀνθρώπων,  
καὶ νῦν τέρματ' ἔθηκε ποδάρκης δῖος Ἀχιλλεύς.  
τῷ σὺ μάλ' ἐγχιρίμψας ἐλάαν σχεδὸν ἄορα καὶ ἵππους,

αὐτὸς δὲ κλινθῆναι ἔϋπλέκτω ἐνὶ δίφῳ  
 ἦκ' ἐπ' ἀριστερὰ τοῦν· ἀτὰρ τὸν δεξιὸν ἵππον  
 κένσαι ὁμοκλήσας, εἰξαί τέ οἱ ἡνία χερσίν.  
 ἐν νύσση δέ τοι ἵππος ἀριστερὸς ἐγχριμφθήτω,  
 ὥς ἂν τοι πλήμνη γε δοάσsetαι ἄκρον ἰκέσθαι  
 κύκλου ποιητοῖο· λίθον δ' ἀλέασθαι ἐπαυρεῖν.

2. τὸ πᾶν δ' ἀφ' Ἑλλανος ἁίας συνορμένοις  
 πένθεια τλησικάρδιος  
 δόμων ἐκάστου πρέπει.  
 πολλὰ γοῦν θιγγάνει πρὸς ἦπαρ·  
 οὓς μὲν γάρ τις ἔπεμψεν  
 οἶδεν, ἀντὶ δὲ φωτῶν  
 τεύχη καὶ σποδὸς εἰς ἐκάστου δόμους ἀφικνεῖται.  
 ὁ χρυσαμοιβὸς δ' Ἀρης σωμάτων  
 καὶ ταλαντοῦχος ἐν μάχῃ δορὸς  
 πυρωθὲν ἐξ Ἰλίου  
 φίλοισι πέμπει βραὺ  
 ψῆγμα δυσδάκρυτον ἀντήνορος σποδοῦ γεμίζων λέβητας εὐθέτου.  
 στένουσι δ' εὖ λέγοντες ἄνδρα τὸν μὲν ὥς  
 μάχης ἔδρις, τὸν δ' ἐν φοναῖς καλῶς πεσόντ'  
 ἀλλοτρίας διαὶ γυναικός. τάδε σιγά τις βαῦ-  
 ρει. φθονερὸν δ' ὑπ' ἄλγος ἔρπει προδίκους Ἀτρεΐδαις.  
 οἱ δ' αὐτοῦ περὶ τεῖχος  
 θήκας Ἰλιάδος γᾶς  
 εὔμορφοι κατέχουσιν· ἐχθρὰ δ' ἔχοντας ἔκρυψεν.  
 βαρεῖα δ' ἀστῶν φάτις ξὺν κότῳ·  
 δημοκράντον δ' ἀρᾶς τίνει χρέος.  
 μένει δ' ἀκοῦσαί τί μου  
 μέριμνα νυκτηρεφές.  
 τῶν πολυκτόνων γὰρ οὐκ ἄσκοποι θεοί. κελαιναὶ δ' Ἐρινύες  
 χρόνῳ  
 τυχηρὸν ὄντ' ἄνευ δίκας παλιντυχεῖ  
 τριβᾶ βίου τιθεῖσ' ἀμαυρὸν, ἐν δ' αἰ-

στοις τελέθοντος οὔτις ἀλκά· τὸ δ' ὑπερκόπως κλέειν  
εὖ βαρύ· βάλλεται γὰρ ὄσσοις Διόθεν κεραυνός.

3. ἴστω δ' ὅστις οὐχ ὑπόπτερος  
φροντίσιν δαεῖς,  
τὰν ἅ παιδολυμὰς τάλαινα Θεστιάς μῆσατο  
πυρδαῆτιν πρόνοϊαν, καταίθουσα παιδὸς δαφοινὸν  
δαλὸν ἥλικ', ἐπεὶ μολὼν ματρόθεν κελάδησε,  
ξύμμετρόν τε διαὶ βίου μοιρόκραντον ἐς ἄμαρ.  
ἄλλαν δεῖ τιν' ἐν λόγοις στυγεῖν  
φοινίαν Σκύλλαν,  
ἄτ' ἐχθρῶν ὑπαὶ φῶτ' ἀπώλεσεν φίλον Κρητικοῖς  
χρυσεοκμήτοισιν ὄρμοις πιθήσασα δώροισι Μίνω,  
Νῆστον ἀθανάτας τριχὸς νοσφίσασ' ἀπροβούλως  
πνέιονθ' ἅ κυνόφρων ἔπνψ. κιγχάνει δέ νιν Ἑρμῆς.

4. τῆς μὲν τοίνυν πρὸς τὸ θεῖον εὐμενείας οὐδ' ἡμεῖς οἰόμεθα  
λελείψεσθαι. οὐδὲν γὰρ ἔξω τῆς ἀνθρωπείας τῶν μὲν ἐς τὸ θεῖον  
νομίσεως τῶν δ' ἐς σφᾶς αὐτοὺς βουλήσεως δικαιουμένῃ ἢ πράσσομεν.  
ἡγοῦμεθα γὰρ τό τε θεῖον δόξῃ τὸ ἀνθρώπειόν τε σαφῶς διὰ παντὸς  
ὑπὸ φύσεως ἀναγκαίας, οὐ ἂν κρατῇ ἄρχειν. καὶ ἡμεῖς οὔτε θέντες  
τὸν νόμον οὔτε κειμένῳ πρῶτοι χρησάμενοι, ὄντα δὲ παραλαβόντες  
καὶ ἐσόμενον ἐς αἰὲ καταλείψοντες χρώμεθα αὐτῷ, εἰδότες καὶ ὑμᾶς  
ἂν καὶ ἄλλους ἐν τῇ αὐτῇ δυνάμει ἡμῖν γενομένους δρῶντας ἂν αὐτό.  
καὶ πρὸς μὲν τὸ θεῖον οὕτως ἐκ τοῦ εἰκότος οὐ φοβοῦμεθα ἐλασσω-  
σεσθαι· τῆς δὲ ἐς Λακεδαιμονίους δόξης, ἣν διὰ τὸ αἰσχρὸν δὴ  
βοηθήσειν ὑμῖν πιστεύετε αὐτούς, μακαρίσαντες ὑμῶν τὸ ἀπειρό-  
κακον οὐ ζηλοῦμεν τὸ ἄφρον. Λακεδαιμόνιοι γὰρ πρὸς σφᾶς μὲν  
αὐτοὺς καὶ τὰ ἐπιχώρια νόμιμα πλείστα ἀρετῇ χρῶνται· πρὸς δὲ  
τοὺς ἄλλους πολλὰ ἂν τις ἔχων εἰπεῖν ὥς προσφέρονται, ξυνελὼν  
μάλιστ' ἂν δηλώσειεν ὅτι ἐπιφανέστατα ὦν ἴσμεν τὰ μὲν ἡδέα καλὰ  
νομίζουσι, τὰ δὲ ξυμφέροντα δίκαια. καίτοι οὐ πρὸς τῆς ὑμετέρας  
νῦν ἀλόγου σωτηρίας ἢ τοιαύτη διάνοια.

5. δόξειε δ' ἂν καὶ τῆς ἐκτὸς χορηγίας ἐπὶ μικρὸν ἢ ἐπ' ἔλαττον  
δεῖσθαι τῆς ἠθικῆς· τῶν μὲν γὰρ ἀναγκαίων ἀμφοῖν χρεῖα καὶ ἐξ

ἴσων ἔστω, εἰ καὶ μᾶλλον διαπονεῖ περὶ τὸ σῶμα ὁ πολιτικὸς, καὶ ὅσα τοιαῦτα· μικρὸν γὰρ ἂν τι διαφέρου· πρὸς δὲ τὰς ἐνεργείας πολὺν διοίσει. Τῷ μὲν γὰρ ἐλευθερίῳ δεήσει χρημάτων πρὸς τὸ πράττειν τὰ ἐλευθέρια, καὶ τῷ δικαίῳ δὴ εἰς τὰς ἀνταποδόσεις (αἱ γὰρ βουλήσεις ἄδηλοι, προσποιούνται δὲ καὶ οἱ μὴ δίκαιοι βούλεσθαι δικαιοπραγεῖν), τῷ ἀνδρείῳ δὲ δυνάμει, εἴπερ ἐπιτελεῖ τι τῶν κατὰ τὴν ἀρετὴν, καὶ τῷ σώφρονι ἐξουσίας· πῶς γὰρ δῆλος ἔσται ἢ οὗτος ἢ τῶν ἄλλων τις; ἀμφισβητεῖται δὲ πότερον κυριώτερον τῆς ἀρετῆς ἢ προαίρεσις ἢ αἱ πράξεις, ὡς ἐν ἀμφοῖν οὔσης. Τὸ δὴ τέλειον δῆλον ὡς ἐν ἀμφοῖν ἂν εἴη. Πρὸς δὲ τὰς πράξεις πολλῶν δέεται, καὶ ὅσῳ ἂν μείζους ὦσι καὶ καλλίους, πλειόνων. Τῷ δὲ θεωροῦντι οὐδενὸς τῶν τοιούτων πρὸς γε τὴν ἐνέργειαν χρεῖα, ἀλλ' ὡς εἰπεῖν καὶ ἐμπόδιά ἐστι πρὸς γε τὴν θεωρίαν· ἢ δ' ἀνθρωπὸς ἐστι καὶ πλείοσι συζῇ, αἰρεῖται τὰ κατ' τὴν ἀρετὴν πράττειν· δεήσει οὖν τῶν τοιούτων πρὸς τὸ ἀνθρωπεύεσθαι.

## GENERAL AND CRITICAL PAPER.

TUESDAY, 3rd April 1900.—2 to 5 o'clock.

I. (a) Indicate succinctly the differences between the Homeric and the Attic syntax in Oratio Obliqua.

(b) Translate, with notes on points of syntax:—

- (1) Ἔκτωρ δ' οὐκ ἐπεπύστο διίφιλος, οὐδὲ τι ἥδη  
ὅττι ρά οἱ νηῶν ἐπ' ἀριστερὰ δηιόνωντο  
λαοὶ ὑπ' Ἀργείων.
- (2) ἔνθα κε ρεῖα φέροι κλυτὰ τεύχεα Πανθοίδαο  
'Ατρεΐδης, εἰ μὴ οἱ ἀγάσσατο Φοῖβος Ἀπόλλων.
- (3) ἐν δέ μοι αὐτῇ  
στήθεσι πάλλεται ἦτορ ἀνὰ στόμα.
- (4) Ἀντίλοχος δ' ἐπόρουσε κύων ὡς, ὅς τ' ἐπὶ νεβρῷ  
βλημένῳ αἵξῃ.
- (5) χαλεποὶ δὲ θεοὶ φαίνεσθαι ἑναργεῖς.



II. Translate, and briefly explain :—

- (a) οὐδ' ὅστις πάροιθεν ἦν μέγας,  
παμμάχῳ θράσει βρύων,  
οὐδὲ λέγεται πρὶν ὧν,  
ὅς δ' ἔπειτ' ἔφν, τρια-  
κτῆρος οἷχεται τυχών.
- (b) καὶ πεπτωκότι  
τρίτην ἐπενδίδωμι, τοῦ κατὰ χθονὸς  
"Αἶδου νεκρῶν σωτῆρος εὐκταίαν χάριν.
- (c) ἔθυσεν αὐτοῦ παῖδα φιλτάτην ἐμοί  
ὠδὴν', ἐπ' ὠδὸν Θρηκίων τε λημμάτων.

Emend, explaining origin of the corruption.

- (d) ἐξελθέτω τις δωμάτων τελεσφόρος  
γυνὴ τόπαρχος, ἄνδρα δ' εὐπρεπέστερον.
- (e) τορὸς γὰρ ὀρθόθριξ φόβος,  
δόμων ὀνειρόμαντις, ἐξ' ὕπνου κότον  
πνέων, ἠωρόνυκτον ἀμβόαμα  
μυχόθεν ἔλακε περὶ φόβῳ.

(f) Scan, naming metre :—

- (1) ὀμμάτων δ' ἐν ἀχηνίαις.
- (2) ἀλλ' Ἰφιγένειά νιν ἀσπασίως.
- (3) ἀλλ' ἐγὼ σ' ἐν ὑστέραισιν ἡμέραις μέτειμ' ἔτι.

III. Translate, with explanatory notes :—

(1) Ἀργεῖοι δ' ἀναχωρησάντων αὐτῶν τοῦ πρὸ τοῦ Καρνείου  
μηνὸς ἐξελθόντες τετράδι φθίνοντος καὶ ἄγοντες τὴν ἡμέραν ταύτην  
πάντα τὸν χρόνον, ἐσέβαλλον ἐς τὴν Ἐπιδαυρίαν καὶ ἐδήουν.

(2) Καττάδε δοκεῖ τῇ ἐκκλησίᾳ τῶν Λακεδαιμονίων ξυμβαλέσθαι  
ποττῶς Ἀργείως, ἀποδιδόντας τὼς παῖδας τοῖς Ὀρχομενίοις καὶ τὼς  
ἄνδρας τοῖς Μαιναλίοις, καὶ τὼς ἄνδρας τὼς ἐν Μαντινείᾳ τοῖς  
Λακεδαιμονίοις ἀποδιδόντας, καὶ ἐξ' Ἐπιδαύρῳ ἐκβῶντας καὶ τὸ  
τεῖχος ἀναιροῦντας. αἱ δὲ κα μὴ εἴκωντι τοῖς Ἀθηναίοις ἐξ' Ἐπι-  
δαύρῳ, πολεμίους εἶμεν τοῖς Ἀργείοις καὶ τοῖς Λακεδαιμονίοις καὶ  
τοῖς τῶν Λακεδαιμονίων ξυμμάχοις καὶ τοῖς τῶν Ἀργείων ξυμμά-

χοις. καὶ αἶ τινα τοὶ Λακεδαιμόνιοι παῖδα ἔχοντι, ἀποδόμεν ταῖς πολίεσι πάσαις.

(3) σιτοποιοὺς ἐκ τῶν μυλῶνων πρὸς μέρος ἡναγκασμένους ἐμ-  
μίσθους.

(4) Φαίνεται δὴ καὶ τὸ ἄλογον διττόν. Τὸ μὲν γὰρ φυτικὸν οὐδαμῶς κοινωνεῖ λόγου, τὸ δ' ἐπιθυμητικὸν καὶ ὅλως ὀρεκτικὸν μετέχει πως, ἢ κατήκοόν ἐστιν αὐτοῦ καὶ πειθαρχικόν.

(5) Ἔστιν ἄρα ἡ ἀρετὴ ἕξις προαιρετικὴ, ἐν μεσότητι οὖσα τῇ πρὸς ἡμᾶς, ὠρισμένη λόγῳ καὶ ᾧ ἂν ὁ φρόνιμος ὀρίσειεν.

(6) Εἰ δέ τις τὰ ἡδέα καὶ τὰ καλὰ φαίη βίαια εἶναι (ἀναγκάζειν γὰρ ἕξω ὄντα), πάντα ἂν εἶη οὕτω βίαια.

(7) Ἡ μὲν οὖν ἀσωτία τῷ διδόναι καὶ μὴ λαμβάνειν ὑπερβάλλει, τῷ δὲ λαμβάνειν ἐλλείπει, ἢ δ' ἀνελευθερία τῷ διδόναι μὲν ἐλλείπει, τῷ λαμβάνειν δ' ὑπερβάλλει, πλὴν ἐπὶ μικροῖς.

IV. Translate, with critical notes on the underlined words:—

(a) ἐν γὰρ τοῖς περὶ τὰς πράξεις λόγοις οἱ μὲν καθόλου κενώτεροί εἰσίν, οἱ δ' ἐπὶ μέρους ἀληθινώτεροι.

(b) εἰπεῖν τε ἐκέλευον, ὅτι καὶ σφεῖς, εἰ ἐβούλοντο ἀδικεῖν, ἥδη ἂν Ἀργείους ξυμμάχους πεποιήσθαι, ὥς παρεῖναί γ' αὐτοὺς αὐτοῦ τούτου ἔνεκα.

(c) καὶ ἡ χώρα ἀπὸ Ἰταλοῦ βασιλέως τινὸς Σικελῶν, τοῦνομα τούτου ἔχοντος, οὕτως Ἰταλία ἐπωνομάσθη.

Ἰταλία, del. Cobet.

(d) ἄλλως τε καὶ εἰ ξυστῶσιν αἱ πόλεις.

(e) καὶ τὰνδράποδα ἀπεδόθησαν, καὶ ἐγένοντο ἐξ αὐτῶν εἴκοσι καὶ ἑκατὸν τάλαντα.

L. ἀπέδοσαν.

#### LITERATURE.

V. Write on any *two* of the following subjects:—

1. The Similes and Epithets of Homer and their literary significance.

2. The place of Aeschylus in the development of Greek Tragedy.

3. The literary position of Euripides, with reference to the following quotation from Aristotle: *Σοφοκλῆς ἔφη αὐτὸς μὲν οἷους δεῖ ποιεῖν, Εὐριπίδην δὲ οἷοι εἰσίν.*

4. The characteristics of Thucydides as a historian.

5. How far can it be said that the Greek Dramatists justify the ways of God to man?

6. The Alexandrian Poets—their aims and work.

### HISTORY.

VI. Write on any *two* of the following:—

1. Give some account of—

(a) The constitution of Cleisthenes;

and (b) The Revolution of the Four Hundred.

2. Write a brief estimate of Pericles and his political achievement.

3. What account is given in the *Ἀθηναίων πολιτεία* of the life and work of Themistocles and Aristides?

4. Sketch briefly the rise of Philip of Macedon.

5. Trace the several steps in the decline of Athens from 410 to her fall in 404 B.C.

6. Give some account of the Greek colonies in Sicily and South Italy.

WEDNESDAY, 4th April 1900.—9 to 12 o'clock.

For Greek Prose:—

To yield reverence to another, to hold ourselves and our lives at his disposal, is not slavery; often, it is the noblest state in which a man can live in this world. There is, indeed, a reverence which is servile, that is to say irrational or selfish: but there is also noble reverence, that is to say, reasonable and loving; and a man is never so noble as when he is reverent in

this kind; nay, even if the feeling pass the bounds of mere reason, so that it be loving, a man is raised by it. Which had, in reality, most of the serf nature in him—the Irish peasant who was lying in wait yesterday for his landlord, with his musket thrust through the ragged hedge; or that old mountain servant, who, two hundred years ago, at Inverkeithing, gave up his own life and the lives of his seven sons for his chief?—as each fell, calling forth his brother to the death, “Another for Hector!” And therefore, in all ages and in all countries, reverence has been paid and sacrifice made by men to each other, not only without complaint, but rejoicingly; and famine, and peril, and sword, and all evil, and all shame, have been borne willingly in the causes of masters and kings; for all these gifts of the heart ennobled the men who gave, not less than the men who received them, and nature prompted and God rewarded the sacrifice. But to feel their souls withering within them, unthanked; to find their whole being sunk into an unrecognised abyss; to be counted off into a heap of mechanism, numbered with its wheels, and weighed with its hammer strokes;—this nature bade not—this God blesses not—this humanity for no long time is able to endure.

RUSKIN.

### UNSEEN TRANSLATION.

THURSDAY, 5th April 1900.—2 to 5 o'clock.

Translate:—

1. σιγῇ δ' ὑπῆλθεν. ἐκ δ' ἐπίπλαμεν δρόσου  
 κρατῆρας ἱεροῦς Βυβλίνου τε πώματος.  
 κὰν τῷδε μόχθῳ πτηνὸς εἰσπίπτει δόμοις  
 κῶμος πελειῶν. Λοξίου γὰρ ἐν δόμοις  
 ἄτρεστα ναίουσ'· ὥς δ' ἀπέσπεισαν μέθυ,  
 εἰς αὐτὸ χεῖλη πώματος κεχρημέναι  
 καθῆκαν, εἰλκον δ' εὐπτέροισι ἐς αὐχένας.

καὶ ταῖς μὲν ἄλλαις ἄνοσος ἦν λοιβὴ θεοῦ·  
 ἦ δ' ἔξετ' ἐνθ' ὁ καινὸς ἔσπειρεν γόνος,  
 ποτοῦ τ' ἐγεύσατ', εὐθὺς εὐπτερον δέμας  
 ἔσεισε καὶ βάκχευσεν, ἐκ δ' ἔκλαγξ' ὅπα  
 ἀξύνετον αἰάζουσα· θάμβησεν δὲ πᾶς  
 θοινατόρων ὄμιλος ὄρνιθος πόνους·  
 θνήσκει δ' ἀπασπαίρουσα, φοινικοσκελεῖς  
 χηλὰς παρείσα. γυμνὰ δ' ἐκ πέπλων μέλη  
 ὑπὲρ τραπέξης ἦχ' ὁ μαντευτὸς γόνος,  
 βοᾷ δέ· τίς μ' ἔμελλεν ἀνθρώπων κτανεῖν;  
 σήμαινε, πρέσβυ· σὴ γὰρ ἡ προθυμία,  
 καὶ πῶμα χειρὸς σῆς ἐδεξάμην πάρα.  
 εὐθὺς δ' ἐρευνᾷ γραῖαν ὠλένην λαβών,  
 ἐπ' αὐτοφώρῳ πρέσβυν ὥς ἔχονθ' ἔλοι.  
 ὦφθη δὲ καὶ κατεῖπ' ἀναγκασθεὶς μόγις  
 τόλμας Κρεούσης πώματός τε μηχανάς.  
 θεὶ δ' εὐθὺς ἔξω συλλαβὼν θοινάτορας  
 ὁ πυθόχρηστος Λοξίου νεανίας,  
 κὰν κοιράνοισι Πυθικοῖς σταθεὶς λέγει·  
 ὦ γαῖα σεμνή, τῆς Ἑρεχθέως ὑπο  
 ξένης γυναικὸς φαρμάκοισι θνήσκομεν.

2. κῶχεθ' Ὕλας ὁ ξανθὸς ὕδωρ ἐπιδόρπιον οἰσῶν,  
 χάλκεον ἄγγος ἔχων. τάχα δὲ κράναν ἐνόησεν  
 ἡμένῳ ἐν χώρῳ· περὶ δὲ θρύα πολλὰ πεφύκει,  
 ὕδατι δ' ἐν μέσσω Νύμφαι χορὸν ἀρτίζοντο,  
 Νύμφαι ἀκοίμητοι, δειναὶ θεαὶ ἀγροιώταις,  
 Εὐνείκα καὶ Μαλὶς ἔαρ θ' ὀρώωσα Νύχεια.  
 ἦτοι ὁ κοῦρος ἐπεῖχε ποτῶ πολυχανδέα κρωσσόν  
 βάψαι ἐπειγόμενος, ταὶ δ' ἐν χερὶ πᾶσαι ἔφυσαν·  
 πασάων γὰρ ἔρως ἀπαλὰς φρένας ἐξεσόβησεν  
 Ἀργεῖω ἐπὶ παιδί. κατήριπε δ' ἐς μέλαν ὕδωρ  
 ἀθρόος, ὥς ὅτε πυρσὸς ἀπ' οὐρανοῦ ἥριπεν ἀστήρ  
 ἀθρόος ἐν πόντῳ, ναύταις δέ τις εἶπεν ἐταίροις

“κουφότερ’ ὦ παῖδες ποιείσθ’ ὅπλα· πλευστικὸς οὖρος.”  
 Νύμφαι μὲν σφετέροις ἐπὶ γούνασι κούρον ἔχοισαι  
 δακρυόεντ’ ἀγανοῖσι παρεψύχοντ’ ἐπέεσσι.  
 Ἀμφιτρυωνιάδας δὲ ταρασσόμενος περὶ παιδί  
 ᾗχετο, Μαιωτιστὶ λαβὼν εὐκαμπέα τόξα  
 καὶ ῥόπαλον, τό οἱ αἰὲν ἐχάνδανε δεξιτερὴν χεῖρ.  
 τρὶς μὲν Ὑλαν αὔσεν, ὅσον βαθὺς ἤρυνγε λαιμός·  
 τρὶς δ’ ἄρ’ ὁ παῖς ὑπάκουσεν, ἀραιὰ δ’ ἔκετο φωνά  
 ἐξ ὕδατος, παρεὼν δὲ μάλα σχεδὸν εἶδετο πόρρω.

3. κοῦφον γὰρ χρῆμα ποιητής ἐστι καὶ πτηνὸν καὶ ἱερόν, καὶ οὐ πρότερον οἷός τε ποιεῖν πρὶν ἂν ἑνθεὸς τε γένηται καὶ ἔκφρων καὶ ὁ νοῦς μηκέτι ἐν αὐτῷ ἐνῇ· ἕως δ’ ἂν τουτὶ ἔχῃ τὸ κτῆμα, ἀδύνατος πᾶς ποιεῖν ἐστὶν ἄνθρωπος καὶ χρησμοφδεῖν. ἅτε οὖν οὐ τέχνη ποιοῦντες καὶ πολλὰ λέγοντες καὶ καλὰ περὶ τῶν πραγμάτων, ὥσπερ σὺν περὶ Ὀμήρου, ἀλλὰ θεία μοῖρα, τοῦτο μόνον οἷός τε ἕκαστος ποιεῖν καλῶς, ἐφ’ ὃ ἡ Μοῦσα αὐτὸν ὥρμησεν, ὃ μὲν διθυράμβους, ὃ δὲ ἐγκώμια, ὃ δὲ ὑπορχήματα, ὃ δ’ ἔπη, ὃ δ’ ἱάμβους· τὰ δ’ ἄλλα φαῦλος αὐτῶν ἕκαστός ἐστιν. οὐ γὰρ τέχνη ταῦτα λέγουσιν ἀλλὰ θεία δυνάμει, ἐπεὶ, εἰ περὶ ἑνὸς τέχνη καλῶς ἠπίσταντο λέγειν, καὶ περὶ τῶν ἄλλων ἀπάντων· διὰ ταῦτα δὲ ὁ θεὸς ἐξαιρούμενος τούτων τὸν νοῦν τοῖς τοῖς χρῆται ὑπηρέταις καὶ τοῖς χρησμοφδοῖς καὶ τοῖς μάντεσι τοῖς θεοῖς, ἵνα ἡμεῖς οἱ ἀκούοντες εἰδῶμεν ὅτι οὐχ οὗτοί εἰσιν οἱ ταῦτα λέγοντες οὕτω πολλοῦ ἄξια, οἷς νοῦς μὴ ἀρεστί, ἀλλ’ ὁ θεὸς αὐτός ἐστιν ὁ λέγων, διὰ τούτων δὲ φθέγγεται πρὸς ἡμᾶς. μέγιστον δὲ τεκμήριον τῷ λόγῳ Τύννιχος ὁ Χαλκιδεύς, ὃς ἄλλο μὲν οὐδὲν πώποτ’ ἐποίησε ποίημα ὅτου τις ἂν ἀξιώσειε μνησθῆναι, τὸν δὲ παῖωνα ὃν πάντες ἄδουσι, σχεδόν τι πάντων μελῶν κάλλιστον, ἀτεχνῶς, ὅπερ αὐτὸς λέγει, εὐρημά τι Μοισᾶν. ἐν τούτῳ γὰρ δὴ μάλιστά μοι δοκεῖ ὁ θεὸς ἐνδείξασθαι ἡμῖν, ἵνα μὴ διστάζωμεν ὅτι οὐκ ἀνθρώπινά ἐστι τὰ καλὰ ταῦτα ποιήματα οὐδὲ ἀνθρώπων, ἀλλὰ θεῖα καὶ θεῶν, οἱ δὲ ποιηταὶ οὐδὲν ἄλλ’ ἢ ἐρμηνεῖς εἰσὶ τῶν θεῶν, κατεχόμενοι ἐξ ὅτου ἂν ἕκαστος κατέχηται. ταῦτα ἐνδεικνύμενος ὁ θεὸς ἐξεπίτηδες διὰ τοῦ φαυλοτάτου ποιητοῦ τὸ κάλλιστον μέλος ᾗσεν.



4. ὅτι τοίνυν ἄνευ τοῦ τοῖς πράγμασι μὴ συμφέρειν τὸ ψήφισμα οὐδὲ πρὸς δόξαν συμφέρεει τῇ πόλει τοιοῦτον οὐδὲν ἐψηφισμένη φαίνεσθαι, καὶ τοῦτο δεῖ μαθεῖν ὑμᾶς. εἰ μὲν γάρ, ὦ ἄνδρες Ἀθηναῖοι, πόλιν οἰκοῦντί τῃ καὶ νόμοις πολιτευομένῳ τὸ ψήφισμα ἐγγράπτο, δεινὸν ὃν ἦττον ἂν ἦν αἰσχρόν· νῦν δὲ γέγραπται Χαριδῆμῳ τῷ πόλιν μὲν οὐδ' ἠντιοῦν οἰκοῦντι Θρακὶ δὲ ἀνθρώπῳ βασιλεῖ στρατηγοῦντι καὶ διὰ τῆς ἐκείνου βασιλείας πολλοὺς ἀδικοῦντι. ὥστε γὰρ δῆπου τοῦθ', ὅτι πάντες οἱ ξιναγοῦντες οὗτοι πόλεις καταλαμβάνοντες Ἑλληνίδας ἄρχειν ζητοῦσι, καὶ πάντων, ὅσοι περ νόμοις οἰκεῖν βούλονται τὴν αὐτῶν ὄντες ἐλεύθεροι, κοινοὶ περιέρχονται κατὰ πᾶσαν χώραν, εἰ δεῖ τάληθες εἰπεῖν, ἐχθροί. ἄρ' οὖν, ὦ ἄνδρες Ἀθηναῖοι, καλὸν ἢ πρέπον ὑμῖν τοῦ μὲν ἔνεκα τῆς ἑαυτοῦ πλεονεξίας ἐπιβουλεύσοντος οἷς ἂν τύχῃ τοιαύτην φυλακὴν ἐψηφισμένους φαίνεσθαι, τοῖς δ' ὑπὲρ τῆς ἑαυτῶν ἐλευθερίας ἀμυνομένοις εἵργεσθαι τῆς ὑμετέρας συμμαχίας προειρηκέναι; ἐγὼ μὲν οὐχ ὑπολαμβάνω τοῦτο οὔτε καλῶς ἔχειν οὔθ' ὑμῶν ἀξίως. πῶς γὰρ οὐκ αἰσχρόν Λακεδαιμονίοις μὲν ἐγκαλεῖν ὅτι τοὺς τὴν Ἀσίαν οἰκοῦντας Ἕλληνας ἔγραψαν ἐξεῖναι δρᾶσαι πᾶν ὃ τι ἂν ἐθέλῃ βασιλεὺς, αὐτοὺς δ' ἐκδοῦναι καὶ τοὺς τὴν Εὐρώπην οἰκοῦντας Κερσοβλέπτῃ καὶ πάντας ὅσων περ ἂν οἴηται κρείττων Χαριδῆμος ἔσεσθαι; οὐ γὰρ ἄλλο τι ποιεῖ τὸ ψήφισμα τουτὶ, ὅτε τῷ μὲν ἐκείνου στρατηγῷ οὐ διήρηται τί πρακτέον ἢ μὴ, πᾶσι δ', ἂν τις ἀμύνηται, τοσοῦτος ἐπήρηται φόβος.

## OPTIONAL SUBJECTS.

### COMPARATIVE PHILOLOGY.

SATURDAY, 31st March 1900.—9 A.M. to 12 NOON.

(EIGHT of the following questions to be answered.)

1. Indicate briefly the grounds for assuming, within Indo-Germanic speech, certain groups of languages showing closer affinities.

2. Explain what you understand by Verner's and Grassmann's laws.

3. What are considered the distinctive features of the most recent school of philologists? Discuss briefly the principles insisted on by this school.

4. Show how certain combinations of consonants have withstood the operation of Grimm's Law.

5. Exemplify the treatment spirants have undergone in Greek and Latin, both at the beginning, and in the middle of words.

6. Show in what way certain sounds are treated both as consonants and as vowels.

7. Discuss the modifications which the original Optative forms have undergone in Greek and Latin, and note any irregularities of formation that occur to you in this respect.

8. What traces of original Aorist formations (in the different moods) do you recognise in the Latin verb?

9. Discuss the form and probable origin of the personal terminations.

10. Explain the genesis of the Greek and Latin forms of the Genitive singular.

11. Analyse, and explain briefly, the formation of *twelve* of the following words, giving cognates where you can:—*cūr*, *ὀκτώ*, *dicim*, *δόμεν*, *posco*, *εἶχον*, *juncit*, *τῶν*, *vīderim*, *πατράσιν*, *fieri*, *λέγεσθαι*, *dixi*, *ἴφιν*, *trans*, *χαμαί*, *quā*, *μία*.

12. Give cognates, and, if possible, the etymology of *twelve* of the following words:—*lēvis*, *ὄλος*, *nervus*, *τίς*, *juvencus*, *ὄμμα*, *linquit*, *νός*, *senex*, *ὄνυξ*, *fors*, *δαήρ*, *mordere*, *τάλας*, *specto*, *μνῖα*, *humilis*, *ἔτος*.

## ANCIENT PHILOSOPHY.

## EARLIER PERIOD.

SATURDAY, 31st March 1900.—9 to 12 o'clock.

1. ὅτι μὲν οὖν τάναντία πως πάντες ποιοῦσι τὰς ἀρχάς, δῆλον.

Indicate the truth of this conclusion by reference to each of the Pre-Socratic Philosophers.

2. Explain carefully the relation of the Atomic School to the Eleatic.

3. Discuss fully the position of the Sophists in the development of Greek thought.

4. Give a short account of the discussion of the third hypothesis in the *Theaetetus* (ἐπιστήμη = δόξα ἀληθὴς μετὰ λόγον).

5. Translate and explain :—

(1) οὐ κινεῖσθαι δὲ ὑπὸ γῆν τὰ ἄστροα λέγει, καθὼς ἕτεροι ὑπελήφασιν, ἀλλὰ περὶ γῆν, ὥσπερὶ περὶ τὴν ἡμετέραν κεφαλὴν στρέφεται τὸ πιλίον. κρύπτεσθαι τε τὸν ἥλιον οὐχ ὑπὸ γῆν γενόμενον, ἀλλ' ὑπὸ τῶν τῆς γῆς ὑψηλοτέρων μερῶν σκεπόμενον καὶ διὰ τὴν πλείονα ἡμῶν αὐτοῦ γενομένην ἀπόστασιν.

(2) ἀξύνετοι ἀκούσαντες κωφοῖσι εἰόκασιν· φάτις αὐτοῖσι μαρτυρεῖ παρόντας ἀπεῖναι.

(3) γαίῃ μὲν γὰρ γαῖαν ὁπώπαμεν, ὕδατι δ' ὕδωρ, αἰθέρι δ' αἰθέρα διον, ἀτὰρ πυρὶ πῦρ αἰδηλον, στοργῇ δὲ στοργήν, νεῖκος δέ τε νεῖκεῖ λυγρῷ.

(4) διαφέρονσι δ' ἀλλήλων τῷ τὸν μὲν περίοδον ποιεῖ τούτων τον δ' ἅπαξ, καὶ τὸν μὲν ἄπειρα τά τε ὁμοιομερῇ καὶ τάναντία, τὸν δὲ τὰ καλούμενα στοιχεῖα μόνον.

(5) ἀπὸ δὲ θαυμαστῆς ἐλπίδος ψυχόμεν φερόμενος, ἐπειδὴ προῶν καὶ ἀναγιγνώσκων ὁρῶ ἄνδρα τῷ μὲν νῷ οὐδὲν χρώμενον οὐδέ τινας αἰτίας ἐπαιτιώμενον εἰς τὸ διακοσμεῖν τὰ πράγματα, ἀέρας δὲ καὶ αἰθέρας καὶ ὕδατα αἰτιώμενον καὶ ἄλλα πολλὰ καὶ ἄτοπα.

(6) ἐκ νέου τε γὰρ σινηθήης γενόμενος πρῶτον Κρατύλῳ καὶ ταῖς

Ἡρακλειτείοις δόξαις, ὥς ἀπάντων τῶν αἰσθητῶν αἰεὶ ῥεόντων καὶ ἐπιστήμης περὶ αὐτῶν οὐκ οὔσης, ταῦτα μὲν καὶ ὕστερον οὕτως ὑπέλαβεν· Σωκράτους δὲ περὶ μὲν τὰ ἠθικὰ πραγματευομένου, περὶ δὲ τῆς ὅλης φύσεως οὐδέν, ἐν μέντοι τούτοις τὸ καθόλου ζητοῦντος καὶ περὶ ὁρισμῶν ἐπιστήσαντος πρώτου τὴν διάνοιαν, ἐκείνον ἀποδεξάμενος διὰ τὸ τοιοῦτον ὑπέλαβεν ὥς περὶ ἐτέρων τοῦτο γιγνόμενον καὶ οὐ τῶν αἰσθητῶν.

(7) ΣΩ. πῶς οὖν ἂν τις ἔτι ψευδῇ δοξάσειεν; ἐκτὸς γὰρ τούτων ἀδύνατόν που δοξάζειν, ἐπείπερ πάντ' ἢ ἴσμεν ἢ οὐκ ἴσμεν, ἐν δὲ τούτοις οὐδαμοῦ φαίνεται δυνατόν ψευδῇ δοξάσαι.

ΘΕΑΙ. ἀληθέστατα.

ΣΩ. Ἄρ' οὖν οὐ ταύτῃ σκεπτέον ὃ ζητοῦμεν, κατὰ τὸ εἰδέναι καὶ μὴ εἰδέναι ἰόντας, ἀλλὰ κατὰ τὸ εἶναι καὶ μὴ;

## LATER PERIOD.

SATURDAY, 31st March 1900.—9 to 12 o'clock.

1. Give Aristotle's Classification of Doctrine, and explain carefully the nature of the different types of ἐπιστήμη. Where does Aristotle place Logic and Psychology?

2. Explain carefully Aristotle's distinction between κοινὴ ἀρχὴ and οἰκεία ἀρχή.

3. What division of psychical faculties is given by Aristotle? Give a short account of the nature of each faculty.

4. Discuss the evidence for distinguishing two periods in the development of Plato's Theory of Ideas.

5. Translate and explain:—

(1) πρότασις μὲν οὖν ἐστὶ λόγος καταφατικός ἢ ἀποφατικός τινος κατὰ τινος. οὗτος δὲ ἢ καθόλου ἢ ἐν μέρει ἢ ἀδιόριστος.

(2) ἔτι τε ἐν ᾧ παντὶ δεῖ κατηγορικόν τινα τῶν ὄρων εἶναι καὶ τὸ καθόλου ὑπάρχειν· ἄνευ γὰρ τοῦ καθόλου ἢ οὐκ ἔσται συλλογισμὸς ἢ οὐ πρὸς τὸ κείμενον ἢ τὸ ἐξ ἀρχῆς αἰτήσεται.

(3) καθόλου δὲ λέγω ὃ ἂν κατὰ παντός τε ὑπάρχῃ καὶ καθ' αὐτὸ

καὶ ἡ αὐτό. φανερόν ἄρα ὅτι ὅσα καθόλου ἐξ ἀνάγκης ὑπάρχει τοῖς πράγμασιν. τὸ καθ' αὐτὸ δὲ καὶ ἡ αὐτὸ ταυτὸν.

(4) λέγομεν δὴ γένος ἓν τι τῶν ὄντων τὴν οὐσίαν, ταύτης δὲ τὸ μὲν ὡς ὕλην, ὃ καθ' αὐτὸ μὲν οὐκ ἔστι τόδε τι, ἕτερον δὲ μορφήν καὶ εἶδος, καθ' ἣν ἤδη λέγεται τόδε τι, καὶ τρίτον τὸ ἐκ τούτων. ἔστι δ' ἡ μὲν ὕλη δύναμις, τὸ δ' εἶδος ἐντελέχεια, καὶ τοῦτο διχῶς, τὸ μὲν ὡς ἐπιστήμη, τὸ δ' ὡς τὸ θεωρεῖν.

(5) ἔχει δ' ἀπορίαν διὰ τί καὶ τῶν αἰσθήσεων αὐτῶν οὐ γίνεται αἴσθησις, καὶ διὰ τί ἄνευ τῶν ἔξω οὐ ποιοῦσιν αἴσθησιν, ἐνότος πυρὸς καὶ γῆς καὶ τῶν ἄλλων στοιχείων, ὧν ἔστιν ἡ αἴσθησις καθ' αὐτὰ ἢ τὰ συμβεβηκότα τούτοις. δῆλον οὖν ὅτι τὸ αἰσθητικὸν οὐκ ἔστιν ἐνεργεία, ἀλλὰ δυνάμει μόνον.

(6) ἐπεὶ δ' ὥσπερ ἐν ἀπάσῃ τῇ φύσει ἐστὶ τι τὸ μὲν ὕλη ἐκάστω γένει (τοῦτο δὲ ὃ πάντα δυνάμει ἐκεῖνα), ἕτερον δὲ τὸ αἷτιον καὶ ποιητικόν, τῷ ποιεῖν πάντα, οἷον ἡ τέχνη πρὸς τὴν ὕλην πέπονθεν, ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς. καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὃ δὲ τῷ πάντα ποιεῖν, ὡς ἔξις τις, οἷον τὸ φῶς.

(7) μὴ τοίνυν ἡδονῆς μὲν πάντως ἐξέτασιν πᾶσαν ἐπιχειρῶμεν ποιήσασθαι, νοῦ δὲ καὶ ἐπιστήμης οἷον φειδόμενοι σφόδρα φανώμεν· γενναίως δέ, εἴ πῃ τι σαθρὸν ἡχέι, πᾶν περικρούωμεν, ὥς ὅ τι καθαρώτατόν ἐστ' αὐτῶν φύσει, τοῦτο κατιδόντες εἰς τὴν κρᾶσιν χρώμεθα τὴν κοινὴν τοῖς τε τούτων καὶ τοῖς τῆς ἡδονῆς μέρεσιν ἀληθεστάτοις.

(8) ἀλλὰ δὴ πρὸς τρισὶ τέταρτόν τι τότε ἔφαμεν εἶναι γένος σκεπτέον. κοινὴ δ' ἡ σκέψις· ὅρα γὰρ εἴ σοι δοκεῖ ἀναγκαῖο· εἶναι πάντα τὰ γιγνόμενα διὰ τινά αἰτίαν γίγνεσθαι.

## CLASSICAL ARCHÆOLOGY.

### FIRST PAPER.

SATURDAY, 31st March 1900.—9 to 12 o'clock.

1. Describe the differences of the black-figure and red-figure

methods of vase-painting, and the resulting variations in artistic style.

2. Interpret and comment on the vase-painting put before you.

3. Describe the classes into which Greek coin types may be divided, in respect of their motive.

4. Summarise the account of coinage given by Aristotle in the "Politics," and point out the bearing of portions of it on recent discussions about the origin and significance of coin types.

5. Describe the cultus of Athene on the Athenian Acropolis, as attached to the various buildings.

6. Briefly describe the Acropolis of Tiryns, and summarise what Pausanias says about the walls. (*S. Q.* 10.)

7. How far back can you trace the existence of a stage in the Greek Theatre?

8. Contrast typical Doric and Ionic temples, in respect of their sculptural decorations.

9. Give a ground-plan of a typical Pompeian house.

10. Explain the following passages:—*iam nimis multos audio Corinthi et Athenarum ornamenta laudantes, mirantesque, et antefixa fictilia deorum Romanorum ridentes* (*Livy*, xxxiv. 4. 4.), and write a note on the architectural use of terra-cotta among the Greeks.

11. Give an accurate description of the dresses worn by the three figures in the vase-painting set before you, and describe some of the different ways in which the hair of the male figure could, according to Greek fashions, be dressed.

## SECOND PAPER—*First Part.*

SATURDAY, 31st March 1900.—2 to 3 o'clock.

Write an Essay on the following subject. (One hour will be allowed for the Essay).



Characterise, on the evidence of literature and monuments, the art of Polycleitus, and notice any points of comparison that occur to you between his style and those of Myron, Praxiteles, and Lysippus.

SECOND PAPER—*Second Part.*

SATURDAY, 31st March 1900.—3 to 5 o'clock.

1. Give an account of the early Chian school of sculptors, and show to what extent the literary notices are illustrated by existing remains.

2. Describe the statues which lined the sacred way at Branchidæ, and draw out any comparisons that occur to you with Oriental prototypes.

3. Translate and comment on the following passages, noting any differing interpretations which have been given of them:—

(a) ἀνέχουσι δὲ οὐχ οἱ πόδες μόνοι τὸν θρόνον, ἀλλὰ καὶ κίονες, ἴσοι τοῖς ποσὶ μεταξὺ ἐστηκότες τῶν ποδῶν. ὑπελθεῖν δὲ οὐχ οἷόν τέ ἐστιν ὑπὸ τὸν θρόνον, ὥσπερ γε καὶ ἐν Ἀμύκλαις ἐς τὸ ἐντὸς τοῦ θρόνου παρερχόμεθα· ἐν Ὀλυμπίᾳ δὲ ἐρύματα τρόπον τοίχων πεποιημένα τὰ ἀπείργοντά ἐστι.

(b) Theodorus, qui labyrinthum fecit, Sami ipse se ex ære fudit, præter similitudinis mirabilem famam magna suptilitate celebratus; dextra limam tenet, læva tribus digitis quadrigulam tenuit translata Præneste, tantæ parvitatís ut miraculo fictam eam currumque et aurigam integeret alis simul facta musca.

4. Comment on the following passages:—

(a) ὁ μὲν δὴ Πύθιος καλούμενος καὶ ὁ Δεκατηφόρος τοῖς Αἰγυπτίοις μάλιστα εἰκόσιν· ὃν δὲ Ἀρχηγέτην ἐπονομάζουσιν, Αἰγυπτιοῖς ἔργοις ἐστὶν ὅμοιος· ἐβένου δὲ πάντα ὁμοίως πεποιήται.

*Paus. i. 42, 5.*

(b) τὸ δὲ ἄγαλμα οὔτε τοῖς καλουμένοις Αἰγυπτιοῖς οὔτε τῶν Ἀττικῶν τοῖς ἀρχαιοτάτοις ἐμφερές, εἰ δέ τι καὶ ἄλλο, ἀκριβῶς

ἐστὶν Αἰγύπτιον. σχέδια γὰρ ξύλων, καὶ ἐπ' αὐτῇ ὁ θεὸς ἐκ Τύρου τῆς Φοινίκης ἐξέπλευσε· καθ' ἣντινα δὲ αἰτίαν, οὐδὲ αὐτοὶ τοῦτο οἱ Ἑρυθραῖοι λέγουσιν. *Paus. vii. 5, 5.*

5. Discuss the style of the Parthenon metopes, as compared with other examples of Attic sculpture.

6. Describe the architectural and sculptural decorations of the Erechtheion. What information about them can be obtained from inscriptions?

7. Discuss the points of social and artistic interest connected with the Athenian grave-relief.

8. Refer the following works to their respective schools, state where they are now preserved, and briefly describe them:—

The "Strangford Apollo."

The "Borghese gladiator."

The "Chiaramonti Niobid."

The "Diadumenos of Vaison."

The "Farnese Hercules."

9. Pliny says: (Olympiade) cxxi. (fuere) Eutychides . . . Cephisodotus . . . cessavit deinde ars, ac rursus olympiade clvi. revixit, cum fuere longe quidem infra praedictos, probati tamen, Antaeus Callistratus, etc. How far is it true that this cessation took place?

## (B)—MENTAL PHILOSOPHY.

### LOGIC AND METAPHYSICS.

MONDAY, 2nd April 1900.—9 A.M. to 12 NOON.

1. Examine the truth and significance of the statement that "Logic, instead of being a science of certain subjective correlations is a science of certain objective correlations."

2. What did Aristotle, Kant, and Mill respectively mean by

Category? Compare the three views, and consider their significance.

3. What is the nature of a judgment of probability, and how far is it to be regarded as subjective or objective?

4. Show, in detail, how far, and in what respects, the logical methods of Mill were and were not anticipated by Bacon.

5. What do you mean by the Uniformity of Nature? Why do you believe in it, and how can you prove it?

MONDAY, 2nd April 1900.—2 to 5 P.M.

1. "The laws of association and the other empirical laws, in which modern psychology condenses the results of observation, can never be transformed into causal equations, and therefore never based on a foundation of necessity."

Discuss the significance of this statement in relation to the nature and limits of psychological science.

2. "The practical impulse comes first, and remains throughout inseparably blended with the theoretical." Discuss this account of mental development.

3. Give a careful account of the various sources of our knowledge of our own movements. Discuss the results of observation and experiment which are adduced in support of the theory that there is a feeling of innervation distinct from all sensations due to peripheral stimuli.

4. Explain the doctrine of "implicit apprehension," and discuss the psychology of conception.

5. Explain and consider the distinction between existence and reality, and discuss the doctrine that there are degrees of reality.

TUESDAY, 3rd April 1900.—9 A.M. to 12 NOON.

1. In what respects does Plato, in the *Theaetetus*, accept

the doctrine of the relativity of knowledge, and how is his theory of knowledge and reality affected by the results of the sophistic theory.

2. Consider the relation of Aristotle's psychology to his conception of knowledge.

3. Discuss the distinction of *Natura Naturans* and *Natura Naturata* as a contribution to the problem of reconciling Spinoza's conception of Substance with the existence of attributes.

4. Explain and examine Kant's *Refutation of Idealism*. Compare his doctrine of the object of perception with that of Hume.

5. "God can only be called a Spirit when He is known to be at once the beginning and end as well as the mean in the process of mediation."

Explain and examine Hegel's conception of Spirit, and consider its relation to his system and to Lotze's view of the object of metaphysic.

## MORAL PHILOSOPHY.

TUESDAY, 3rd April 1900.—2 to 5 P.M.

1. Discuss the question how far it is theoretically possible to pursue with complete consistency as an exclusive end

(a) the satisfaction of individual desires,

(b) one's own advantage,

(c) the happiness of others.

2. In what sense is it true that Will is the basis of the State? How do you distinguish this theory, as held by Green, from the doctrine that society is founded on a contract?

3. State and discuss Sidgwick's conception of Justice.

4. State and discuss Green's account of Desire. Examine what he says of its relation (a) to Intellect, (b) to Pleasure.

5. Consider the relation of ethical to metaphysical Idealism.

WEDNESDAY, 4th April 1900.—9 to 12 o'clock.

1. Explain Plato's theory of the relation to each other of *εἰκασία*, *πίστις*, *διάνοια*, *νοήσις*; and consider the ethical significance of these stages of intellectual development.

2. Carefully examine Aristotle's answer to the question whether a man can act unjustly to himself.

Explain the significance of this answer for Aristotle's idea of Justice, and discuss the significance of Justice (a) in the *Ethics*, (b) in the *Politics*.

3. How far is it true that Kant makes mere self-consistency the moral criterion? In what respects does he himself correct this idea of morality?

4. Explain and examine Hegel's account of Punishment. Compare it critically with that of Utilitarianism.

5. Explain and discuss Spencer's doctrine of the relations of Absolute and Relative Ethics; and examine its consistency with his use of a biological criterion in Ethics.

#### ESSAY.

WEDNESDAY, 4th April 1900.—2 to 5 P.M.

Write an Essay on

“Individuality.”

### (C)—MATHEMATICS AND NATURAL PHILOSOPHY.

#### PURE MATHEMATICS.

SATURDAY, 31st March 1900.—9 A.M. to 12 NOON.

1. Shew how to solve an equation of the form  $x^3 + qx + r = 0$ .  
Solve  $32x^3 + 48x^2 + 34x + 9 = 0$ .

2. Prove that a real root of  $f'(x)=0$  lies between every two real roots of  $f(x)=0$ .

Find the equal roots of, and solve,  $2x^4+8x^3-x^2-6x+45=0$ .

3. Prove that four normals may in general be drawn from any point to the ellipse  $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ .

Shew that the equations  $x=a^2p/(a^2+\lambda)$ ;  $y=b^2q/(b^2+\lambda)$ , represent, when  $\lambda$  varies, a rectangular hyperbola passing through the feet of the normals from  $(p, q)$  to the ellipse. Hence, or otherwise, prove that the cross ratio of the pencil formed by the normals is equal to the cross ratio of the four lines joining the centre to their feet in the ellipse.

4. Find the equation to the chord of contact of tangents from a point  $P$  to the hyperbola  $x^2-y^2=1$ .

Find the equation to the locus of  $P$  when the chord of contact is of constant length.

Prove also that if  $P$  be any point on the curve  $(x^2-y^2-1)^2-x^2-y^2=0$ , its distance from its chord of contact is constant.

5. Define a *differential coefficient*, and find from your definition the differential coefficient of  $a^x$ .

Differentiate (i)  $\sec^{-1} \sqrt{1-e^{ax}}$ ; (ii)  $(\cot x)^{\tan^2 x}$ .

Find  $\frac{dy}{dx}$  when  $x^3=e^{\tan^{-1}\left(\frac{y-x^2}{x^2}\right)}$ .

6. Give a geometrical interpretation of  $\frac{dy}{dx}$ , when  $x$  and  $y$  are connected by the relation  $f(x, y)=0$ .

Trace the graph of  $y=(\sin 2x-\sin x)/\cos x$ . Find the angles at which it crosses the  $x$ -axis, and shew that its finite maximum distance from the  $x$ -axis is  $(2^{\frac{2}{3}}-1)^{\frac{3}{2}}$ .

7. Prove geometrically that in a parabola the subnormal is constant.

$A$  is the vertex of a parabola, and  $P$  any point on it.  $PQ$  is



drawn parallel to the axis, while  $AQ$  is perpendicular to  $AP$ . Prove that the locus of  $Q$  is a straight line parallel to the directrix.

8. Find the  $n^{\text{th}}$  differential coefficient of (i)  $x^3 \cos ax$  ;  
(ii)  $x^4 \cos^4 x$ .

Find the third differential coefficient of  $\cos u \cos v$ ,  $u$  and  $v$  being known functions of  $x$ .

9. Expand in powers of  $h$ , and find the coefficient of  $h^n$  in  $(a+h)/(a-h)(a^2+h^2)$ .

Expand in powers of  $x$ , as far as  $x^4$ ,  $\log(1+e^x)$ .

10. Prove the formula for integration by parts.  
Evaluate

$$(i) \int \sec 2x \, dx.$$

$$(ii) \int x^2 dx / (x^4 - a^4).$$

$$(iii) \int \cot x dx / (1 + \sin^2 x).$$

$$(iv) \int_0^{\frac{\pi}{2}} \sin^n x \, dx.$$

11. Find an expression in polar co-ordinates for the area of any curve whose equation is given in the form  $r=f(\theta)$ .

Roughly trace the graph of  $r=(\theta-1)(\theta-2)$ , and find the area enclosed by its loop.

$OMP$  is a curve passing through the origin, and  $P$  any point in it. The circle of centre  $O$  and radius  $OP$  meets the prime radius vector in  $Q$ . Find the equation to the curve, if  $P$  is always such that the arc  $OMP$  bisects the sector  $OPQ$ .

12. Define the Reciprocal Determinant of a given determinant of the third order, and prove that their product is the cube of the latter determinant.

Shew that if the given determinant and one of its first minors be zero at the same time, then at least other two of the first

minors are also zero. Indicate the conditions upon  $a$ ,  $b$ , and  $c$ , when the determinant is

$$\begin{vmatrix} a-x & b & c \\ b & b-x & c \\ c & c & c-x \end{vmatrix},$$

( $a \neq 0$ ,  $b \neq 0$ ,  $c \neq 0$ ).

MONDAY, 2nd April 1900.—9 A.M. to 12 NOON.

1. Find the equation of a conic referred to a self-polar triangle.

Find the equation giving the eccentricity of  $pa^2 + q\beta^2 + r\gamma^2 = 0$ , if  $A$ ,  $B$ ,  $C$  be the angles of the triangle of reference ( $\alpha$ ,  $\beta$ ,  $\gamma$  being trilinear co-ordinates).

2. What are the straight line and imaginary circular points at infinity? Find the co-ordinates of the latter for the triangle  $ABC$ .

$PQ$  is a common chord of two fixed conics,  $A$  and  $B$  being the poles of  $PQ$  with respect to these conics. Prove that the locus of the pole of  $PQ$  with respect to a variable conic, which passes through  $P$  and  $Q$  and touches the fixed conics, is a conic touching the sides of the quadrilateral  $APBQ$ .

3. Find for  $(a, b, c, f, g, h)(x, y, 1)^2 = 0$  the equation of the diameter bisecting all chords parallel to  $y = mx$ .

Find for  $(a, b, c, f, g, h)(\alpha, \beta, \gamma)^2 = 0$  the equation of the diameter bisecting all chords parallel to  $l\alpha + m\beta + n\gamma = 0$ ,  $A$ ,  $B$ , and  $C$  being angles of triangle of reference.

4. Define the polar  $B$  of a curve  $A$  with respect to a conic, and prove that  $A$  is the polar of  $B$ .

If  $x^2/a^2 + y^2/b^2 = 1$  be reciprocated with respect to any point  $P$ , find the locus of  $P$ —

(i) so that the reciprocal conic is similar to the original one;

(ii) so that the area of the reciprocal conic is constant.

5. Prove that any symmetric homogeneous function  $A$  of the roots of  $x^n + p_1x^{n-1} + p_2x^{n-2} + \dots = 0$  can be expressed as a function  $B$  of the co-efficients, where the degree of  $A$  in all the roots is the sum of the suffixes of each term of  $B$ ; and the degree of  $A$  in one root is the degree of  $B$ .

If the coefficients be expressed in terms of the sums of the powers of the roots, prove  $\frac{dp_{r+k}}{ds_r} = -\frac{p_k}{r}$ .

If  $\alpha, \beta, \gamma, \delta$  be distinct roots of  $\tan\left(\theta + \frac{\pi}{4}\right) = 3\tan 3\theta$ , find  $\Sigma \tan 2\alpha$ .

6. For the curve  $r^n = a^n \sin n\theta$  find the angle between the radius vector and the tangent: and also the  $p$ - $r$ -equation of the pedal, the origin being the pole.

From the extremities of a chord  $AB$  of the curve  $r = a(1 + \cos \theta)$  the normals  $AC, BC$  are drawn; and  $CD$  is a third normal. If  $AB$  pass through the origin, prove that the angle between  $CD$  and  $CA$  is equal to the angle between  $CB$  and the line  $\theta = 0$ .

7. Expand  $\sin mx$  and  $\cos mx$  in powers of  $\sin x$ .

Prove  $x \log x + x(\log x)^2 + \frac{1}{2!} \frac{d}{dx} \{x^2(\log x)^3\} + \frac{1}{3!} \frac{d^2}{dx^2} \{x^3(\log x)^4\} + \dots$  to  $n$  terms  $= \frac{1}{n!} \left(\frac{d}{dx}\right)^{n-1} \{x^n(\log x)^n\}$ .

Find the sum of  $\sin x - \frac{1}{3^2} \sin 3x + \frac{1}{5^2} \sin 5x - \dots$  to infinity, where  $-\frac{\pi}{2} \nless x \less \frac{\pi}{2}$ .

8. Shew how to find the linear and parabolic asymptotes of a curve given by a rational integral algebraic equation.

Find the asymptotes of, and sketch

$$(i) \ y^2(x^2 - y^2) - 2y^3 + 2x = 0;$$

$$(ii) \ y^4 - 2x^2y - 2xy^2 + x^4 + x^3 = 0.$$

9. Find the conditions for a double point of  $\phi(x, y) = 0$ ; and

find the maximum number of double points if  $\phi$  be of the  $n$ th degree and irreducible.

Prove that, if a curve have the maximum number of double points, its co-ordinates can be expressed as rational integral functions of one parameter.

As an example work out for

$$x^4 - 2x^3 + x^2 + y^4 - 2y^3 + y^2 + xy(x^2 + xy + y^2 - 2x - 2y + 1) = 0.$$

10. Investigate a formula of reduction for  $\int dx/(a + b \cos x)^n$ .

Evaluate  $\int_0^{\pi/2} dx/(1 - \cos a \cos x)^4$ .

By means of the substitution  $(x^2 + 6x + 4)y^2 = 2x^2 + 4x + 5$  reduce  $\int (5x + 6)dx / \{(x^2 + 6x + 4) \sqrt{2x^2 + 4x + 5}\}$  to the form

$\int A dy / \sqrt{a + by^2} + \int A' dy / \sqrt{a' + b'y^2}$ ; and hence evaluate the integral.

11. Shew how to find the equations of the principal axes of the quadric surface  $(a, b, c, f, g, h)(x, y, z)^2 = 1$ .

What do the equations

$$\frac{ax + hy + gz}{x} = \frac{hx + by + fz}{y} = \frac{gx + fy + cz}{z}$$

represent (i) in general (ii) if  $(af - gh)/f = (bg - hf)/g = (ch - fg)/h$ ?

12. Shew that the hyperboloid of one sheet is a ruled surface with two sets of generators such that every line of one set meets every one of the other set.

Prove that the volume of any parallelepiped, six of whose sides lie along generators of a given hyperboloid of one sheet, is constant.

13. Shew how to solve by variation of parameters, or otherwise, equations of the type  $y'' + (y')^2 f(y) + \phi(y) = 0$ .

Solve—

(i)  $y'' = y(2 + 3 \tan^2 2x)$ , by means of the Schwarzian derivative or otherwise;

(ii)  $2yy'' - 3(y')^2 = 4y^2$ .

14. Give Charpit's Method of solution of partial differential equations of the first order with two independent variables.

Solve  $2x^2y(p-1)=q$ ; and find the solution if  $z=0$  when  $y=0$ .

MONDAY, 2nd April 1900.—2 to 5 P.M.

1. Find an expression for the number of  $r$ -combinations of  $n$  different things, when repetition of each thing up to  $r$  times is allowed.

Solve the same problem when repetition of each thing up to  $s$  times ( $s < r$ ) is allowed.

Prove that

${}_nC_r = {}_nH_r - {}_nC_1 {}_nH_{r-2} + {}_nC_2 {}_nH_{r-4} - {}_nC_3 {}_nH_{r-6} + \dots$ , where  ${}_nC_r$  and  ${}_nH_r$  have their usual meanings.

2. Prove that the limit of  $(1+1/x)^x$  when  $x = \infty$  is a finite number lying between 2 and 3. Deduce the limit of  $(a^x - 1)/x$  when  $x = 0$ .

Evaluate  $\int_{x=0}^{\infty} \left( \frac{\sinh x}{x} \right)^{\cot x} dx$ .

3. Establish the fundamental properties of the circle of inflexions in Kinematical Geometry.

Prove that any ellipse may be considered as generated by a movement in which two points have for trajectories two straight lines at right angles. Deduce a Euclidian construction for the centre of curvature at any point on an ellipse: and find the radii of curvature at the vertices of the ellipse.

4. Explain Newton's method for comparing the curvatures of two curves: and deduce an expression for the radius of curvature at any point on a parabola.

Prove that the radius of curvature at the point on the conic  $(a, b, c, f, g, h)$   $(x, y, 1)^2 = 0$  where the tangent is parallel to the  $x$ -axis is  $\pm(-\Delta)^{\frac{1}{2}}/a^2$ ,  $\Delta$  being the discriminant.

5.  $P$  and  $Q$  are corresponding points on an ellipse and its major auxiliary circle. A circle, whose plane is perpendicular to the plane of the ellipse, is described on  $PQ$  as diameter: shew that the volume of the solid generated by this circle is  $\frac{2}{3}\pi(a-b)^2a$ , where  $a$  and  $b$  are the semi-axes of the ellipse.

6. State the criteria for the convergency of a definite integral whose limits are infinite; and prove that the integral

$\int_0^\infty dx \sin x/x$  is convergent.

Evaluate (i)  $\int_0^\infty dx e^{-x^2}$ ; (ii)  $\int_0^{\frac{\pi}{2}} dx \sin^2 x \log \sin x$ .

7. State, without proof, the conditions under which

$$\lim_{n \rightarrow \infty} \int_0^h dz \frac{\phi(z, r)}{z} \sin nz = \frac{\pi}{2} \phi(+0, r).$$

Deduce Fourier's Theorem regarding the expansion of any function in a sine-cosine-series.

Expand  $e^x$  in a series of the form  $A_0 + A_1 \cos x + A_2 \cos 2x + \dots$  for  $0 \nless x \nless \pi$ .

8. When are two straight lines said to be conjugate with respect to a conic section? Deduce the condition that the straight lines  $\lambda x + \mu y + v = 0$ ,  $\lambda' x + \mu' y + v' = 0$  be conjugate with respect to the conic  $ax^2 + 2bxy + by^2 + 2gx + 2fy + c = 0$ .

The ellipse (i)  $x^2/a^2 + y^2/b^2 - 1 = 0$  lies wholly within the ellipse, (ii)  $x^2/a^2 + y^2/b^2 - 1 = 0$ : find the equation to the locus of the middle points of chords of (ii) which touch (i).

9. Find an expression for the distance between two points in space whose Cartesian co-ordinates referred to an oblique triad of axes are  $(x, y, z)$ ,  $(\xi, \eta, \zeta)$ .

Find the equation to the cone generated by the chords of an



ellipsoid that pass through a given point and are of given length. Determine the number of points common to this cone, the quadric, and any plane parallel to the polar plane of the vertex of the cone; and prove that not more than four of these points can be real, when the quadric is not a quadric of revolution.

10. Shew that a homogenous quadric function of  $n$  variables may be represented as the sum of  $n$  squares of linear functions of these variables.

Prove that  $\cos ax^2 + \cos 3ay^2 + \cos 5az^2 + 2 \cos 2axy + 2 \cos 3axz + 2 \cos 4ayz = 0$  represents a pair of planes whose intersection is  $x = -y/2 \cos a = z$ .

11. Find the general conditions that the family of integral curves of  $\phi(x, y, p) = 0$  may have a tac-locus.

Discuss the nature of the integrals of  $4y^2p^2 + 2xyp + x^2 + 3y^2 - 3 = 0$  at points on the  $x$ -axis.

12. Solve the following differential equations

$$(i) \ y^{iv} - 2y^{iii} + 2y^{ii} - 2y^i + y = x \cos x;$$

$$(ii) \ y' + y^2 = 1 + 2 \tan^2 x,$$

given that a particular solution of the latter is  $y = \tan x$ .

13. Discuss briefly the theory of the envelope of a twofold family of surfaces; and point out its connection with the partial differential equation of the family.

Discuss as an illustration the family  $z^2 = (a^2 + b^2)z - 2ax - 2by$ , and its differential equation. In particular, compare the envelope with the singular solution derived from the differential equation directly.

14. Find the necessary and sufficient condition that it be possible to transform  $Pdx + Qdy + Rdz$ , where  $P, Q, R$  are functions of  $x, y, z$ , into the form  $\Pi d\omega$ .

Find the equation to the projection on the plane of  $xy$  of the lines on the surface  $z = xy$  which are orthogonal to the

curves in which this surface is cut by the system of spheres  $x^2 + y^2 + z^2 = c^2$ .

15. Find the most general integral of the equation  $\delta^2 z / \delta x^2 - \delta^2 z / \delta y^2 - \delta z / \delta x + \delta z / \delta y = 0$  which satisfies the condition  $\delta z / \delta x - \delta z / \delta y = x$  when  $y = 0$ .

TUESDAY, 3rd April 1900.—9 A.M. to 12 NOON.

Write dissertations on not more than *two* of the following subjects:—

1. The exponential function of a complex argument.
2. Semi-convergent series.
3. The singular solutions of ordinary differential equations of the first order.
4. Moments of inertia.
5. The transformation in which a point corresponds to the line of intersection of its polar planes with respect to two given quadrics.
6. The curvature of the plane sections of a surface at any point.

## NATURAL PHILOSOPHY.

TUESDAY, 3rd April 1900.—2 to 5 P.M.

*Keep answers to X, XI, XII in a separate book.*

1. What is the Hodograph. Prove some of its properties. What is the equation of the hodograph in the case of a particle moving under the influence of a central force directly as the distance?

2. Discuss the vertical motion of a spherical body near the earth's surface, the resistance of the air being directly as the square of the speed. If the "terminal speed" be 200 feet per second, find the total loss of energy of motion during the

ascent and descent of a mass of 10 lb. projected upwards with a speed of 500 feet per second.

3. Establish the energy criterion for the condition of stable equilibrium. Apply the principle to find the configuration of equilibrium of two smooth spheres of equal mass and radii 1 and 2 resting at the bottom of a smooth spherical bowl of radius 4.

4. Calculate the moments of inertia of a right cone of uniform density with reference to axes through the centre of mass, and find the relative dimensions when the moment of inertia is the same about all axes. In this case find also the principal moments of inertia with reference to a point in the rim of the circular base.

5. What is meant by the centre of percussion of a moving body? Show that it bears to the instantaneous centre of rotation the same relation which the centre of oscillation bears to the centre of suspension when the body is set up as a compound pendulum.

6. A hemisphere is set with its curved surface resting against a smooth vertical and a smooth horizontal plane, the diametral plane being parallel to their intersection, and at any given inclination to the vertical. Discuss the subsequent motion and find the position in which the horizontal thrust of the wall has its maximum value.

7. Two simple pendulums are attached to the same point of a vertical axis about which they can rotate as a symmetrical pair of conical pendulums. Strings pass from the pendulum bobs through a smooth ring in the axis of rotation and are kept taut by being fastened to a body whose weight is equal to that of each of the bobs, this body being capable of free vertical motion only; and the distance of the ring from the point of suspension of the conical pendulums is equal to the length of each pendulum. The system is started from a given configura-

tion with a given angular velocity. Discuss the motion, and deduce the period of small oscillations of each pendulum about a mean inclination of  $60^\circ$  to the axis of rotation.

8. Find the equipotential surfaces and lines of force due to a finite straight line of attracting matter of uniform line-density, every element of which attracts with a force varying inversely as the square of the distance.

9. Explain what is meant by entropy in thermodynamics. Find an expression for the entropy per unit mass of a gas obeying Boyle's and Charles' Laws, and calculate the change of entropy when it is allowed to expand adiabatically to double its original volume.

X. Define homogeneous strain, and show that it converts a spherical figure into an ellipsoid. If the principal axes of this ellipsoid have their directions unchanged, the strain may be regarded as the resultant of mere extensions in directions at right angles to one another. If it be succeeded by another set of extensions in other three rectangular directions, there will still be three lines, though not at right angles to one another, which retain their original directions.

XI. A cylinder has a broad, thin, ribbon wound transversely round its middle. It is placed horizontally, and allowed to fall, the outer end of the ribbon being fixed. Determine the circumstances of the fall.

XII. Give, without symbols, a full explanation of the lowering of the freezing point, and of the raising of the boiling point, of water under increased pressure.

WEDNESDAY, 4th April 1900.—9 A.M. to 12 NOON.

1. Prove that any system of forces acting on a rigid body may be reduced to a force in a certain line and a couple about that line.

Find the force, couple, and line for three equal forces along three non-coplanar sides of a regular tetrahedron.

2. What is meant by virtual work?

$ABCD$  is a rhombus of equal uniform rods.  $AB$  is held horizontally, and a light string connects the opposite corners  $A$  and  $C$ . Find by means of the notion of virtual work the pull along the string, in terms of the lengths of a rod and of the string.

3. Investigate by direct integration (i) the force, (ii) the potential due to a uniform sphere at any point inside or outside.

4. If two smooth spheres impinge obliquely, find the velocities after impacts, if the coefficient of restitution be  $e$ .

If  $r$  equal spheres, not in contact, be at rest in a line and an end one be hit in this line by another equal sphere, find the final velocities of all.

5. Investigate the equation for the form of a non-uniform chain in equilibrium under the action of gravity. Find the form if the density be proportional to the secant of the angle the tangent at the point makes with the horizontal.

If the chain be uniform and nearly straight, find approximately the sag in the middle in terms of the pull at the ends, the density, and the length. Also find the sag if, in addition, a given mass hang from the mid-point.

6. Find the differential equation of the path of a particle under a central force.

Prove that if the force be of the form  $\mu/r^2 + \mu'/r^3$  the path is a conic which rotates about the focus.

7. Find expressions for the velocity and acceleration in space of a point in terms of its co-ordinates referred to three axes which are rotating about one another with given angular velocities.

A smooth circular tube, whose plane makes an angle  $\alpha$  with the vertical, is rotating with constant angular velocity  $\omega$

about a vertical axis through its centre. A particle in the tube is making small oscillations about the lowest point. Find their period.

8. Find the angular accelerations of a rigid body in space when its angular velocities are given with respect to axes rotating with given angular velocities about one another.

A uniform sphere is moving on a perfectly rough horizontal plane which rotates with constant angular velocity about a vertical axis. Find the values, in terms of the time, of the co-ordinates of the centre of the sphere referred to fixed rectangular axes through the point where the axis of rotation cuts the plane.

9. Find expressions for the velocities and accelerations of a point (i) along and perpendicular to the radius vector ; (ii) along the tangent and normal.

If a point move so that its velocity is made up of two components, one directed to a fixed pole, the other to a fixed direction, and having a fixed ratio to each other, find the conditions that the path may be a conic with the pole as focus and the fixed direction as principal axis.

10. Investigate and solve the equations of transverse vibration of a thin uniform string stretched between two points  $A$  and  $B$ .

Determine the solution when the string is initially at rest in the form  $APB$ , where  $AP$  and  $PB$  are straight lines  $AP = \frac{1}{6}PB$  and  $P$  is distant  $a$  from  $AB$ . What is the amplitude of the lowest note?

11. Explain what is meant by an indicator diagram.

Find the ratio of the compressibilities of a gas, satisfying  $pv = R\theta$ , at constant temperature, and when no heat passes, in terms of the specific heats at constant pressure and at constant volume.

12. Define the capacity of an electrostatic condenser, and find



it for two concentric spheres when the intermediate space is filled (i) with air, (ii) with any dielectric.

Find an approximate formula for the capacity of an ordinary Leyden jar in terms of the area of the tinfoil, the thickness of the glass, and its specific inductive capacity.

WEDNESDAY, 4th April 1900.—2 to 5 P.M.

*Keep answers to questions 1—6 and VII.—XII. in separate books.*

1. An infinite plane sheet of metal has a metallic hemisphere projecting from it. If it be placed in a field of uniform electrostatic force, perpendicular to the plane, find the potential at any point and the surface density of the electrification at any point of the sphere and plane.

2. Show how to form the equations for the potential and current functions for a steady flow of electricity through a plane conducting sheet. What are the usual surface conditions, and how is the resistance of the sheet found?

Find the functions and resistance in the case of a circular sheet with centre  $O$ , if the current enter and leave by thin wires of radius  $a$  at  $A$  and  $B$  where  $O$  bisects  $AB$  and  $OA = \frac{1}{2}$  radius of sheet.

3. Discuss the representation of the thermodynamical properties of a substance by means of a surface. Take for example water-substance, and the energy, entropy and volume as co-ordinates, and point out peculiarities of the surface.

4. Find the expression for the energy in terms of entropy and volume

(i) of a substance satisfying  $p v = R \theta$

(ii) of a substance satisfying  $\left(p - \frac{a}{v}\right) (v - b) = R \theta$

where  $p$ ,  $v$ ,  $\theta$  are the pressure, volume, and absolute temperature,

completing the solution by assuming that the specific heat at constant volume is a constant.

5. Discuss the derivation of equations of motion and path from the principles of Least and Varying Action. Discuss the path for the case of a particle under a central force inversely as the square of the distance.

6. A smooth horizontal plane is rotating steadily about a vertical axis. On it lies a chain with its two ends fixed ; find the tension at any point, and obtain as far as you can the equation of the curve in which the chain lies.

VII. A smooth helical tube is fixed in a non-vertical position, and a particle is allowed to fall from rest at an assigned point in it. Find the conditions for (1) no motion, (2) oscillation, (3) continuous descent.

VIII. One end of a uniform chain is fixed. Find the locus of the other so that the tension may be constant (1) at the vertex, (2) in magnitude at the fixed end.

IX. Define the Thermodynamic Motivity of a system. Find the rate at which, after  $t$  seconds, it is dissipated by conduction, when a given quantity of heat is instantaneously generated at one point of an infinite mass of homogeneous isotropic matter.

X. Investigate the law of linear propagation of heat into an infinite homogeneous, isotropic, mass bounded by a plane surface which is subjected to a simple harmonic variation of temperature. Point out the application to underground temperature.

XI. Show how light is propagated, in a nearly horizontal direction, when the air is at rest but its temperature varies with elevation. In particular, what are the conditions for an inverted image immediately above a distant object, and a direct image a little more elevated ?

XII. Give the usual proof that vortex-filaments, in a perfect fluid, can end only at a bounding surface. What are the as-

sumptions on which this proof absolutely depends? Under what conditions are they admissible?

(D)—ENGLISH (LANGUAGE, LITERATURE, AND  
BRITISH HISTORY).

ENGLISH.

FIRST PAPER.

FRIDAY, 30th March 1900.—9 A.M. to 12 NOON.

[Not more than EIGHT Questions should be attempted.]

1. "With respect to poetic truth, a probable impossibility is to be preferred before a thing improbable and yet possible." What does Aristotle mean by this dictum? Give illustrations of your own.

Or,

Quote Aristotle's view as to the way that Tragedy operates on the feelings of the spectator. Discuss the various interpretations of his words.

2. Briefly outline the ancient theories of Rhetoric, considered in its bearing on literary theory.

3. What are the vices of style, which, according to Longinus, are opposed to the Sublime? Illustrate from English Literature.

4. Briefly contrast the literary criticism of Dante with that of his countrymen at the time of the Renaissance.

5. What in general were the poetical theories of the Classical (Augustan) Age in England?

6. Discuss any general objections that may be brought against Guest's system of English Prosody. Indicate briefly what you think to be the true basis of such a system.

7. "Poetry is a criticism of life." Consider how far this

definition is adequate in the light of the *Prologue* to the *Canterbury Tales*, of the lyrics of Shelley, and of prose comedy or the novel generally.

8. Show from the "Metaphysical" Poets which of their qualities Johnson ignored, and which of their faults he detected.

9. Must Simplicity belong to the highest diction? What light is thrown on this question by the discussion between Coleridge and Wordsworth?

10. Trace the influence of Milton on subsequent poetical form.

11. Explain the origins of the English Essay, and write an estimate of any *one* of its great practitioners.

12. Characterise the Prose of Dr. Johnson.

#### SECOND PAPER.

FRIDAY, 30th March 1900.—2 to 5 P.M.

Write an Essay on *one* of the following subjects:—

1. The Varieties of Mediæval Allegory.
2. The influence of Chaucer upon Scottish Poets.
3. The Species of Comedy.

#### THIRD PAPER.

SATURDAY, 31st March 1900.—9 A.M. to 12 NOON.

[*Not more than EIGHT Questions should be attempted.*]

1. Show how far Chaucer and Langland differ in their attitude towards the clerical profession and its representatives.

2. What does Chaucer seem to know of Boccaccio, and how does he make use of him?

3. How far is Chaucer's portrayal of character in *Troilus and Criseyde* convincing?

4. In his sequel to the story of Cressida, what does Henryson take from Chaucer, and what does he add of his own? Quote briefly.

5. Discuss the difficulties that arise as to (1) the number of the Canterbury Pilgrims, (2) the number and the apposite allotment of their stories, and (3) the tales told by Chaucer himself.

6. Give the broad argument of the *Vision Concerning Piers the Plowman* [A-text], making clear the significance of the title-character.

7. Show the strength and the weakness of Langland in presenting his abstract personages.

8. Delineate the classical reading that is found in fourteenth-century English poets.

9. What is the plan of the *Confessio Amantis*? How far do the contents suit that plan?

10. Annotate :—

(a) "Dulcarnon called is fleeming of wrecches."

(b) "O moral Gower, this book I directe  
To thee."

(c) "And grete well Chaucer, whan ye mete,  
As my disciple and my poete."

(d) "After the scole of Stratford atte Bowe."

(e) "Wel koude he fortunen the ascendent  
Of his ymages for his patient."

(f) "I wende ryflynge were restitucioun," quod he, "for I  
lerned neuere rede on boke,  
And I can no frenche in feith but of the ferthest ende  
of norfolke."

(g) "He bonchede hem with his breuet and blered heore  
eigen,  
And rauhte with his ragemon ringes and broches."

11. Mark, and comment on, the scansion of (e) and (f) in question 10, and also of the following :—

(a) "Twenty bookes clad in blak or reed."

- (b) "Whan that Aprille with his shoures soote."  
 (c) "In a somer sesun whon softe was the sonne."  
 (d) "For this most goodly floure,  
 This blossome of fresshe coloure,  
 So Jupiter me socoure,  
 She florisheth new and new  
 In beautye and vertew :  
*Hac claritate gemina*  
*O gloriosa femina."*

12. In what ways does Froissart supplement the pictures of English life that come to us from English sources?

#### FOURTH PAPER.

SATURDAY, 31st March 1900.—2 to 5 P.M.

[Not more than EIGHT questions should be attempted.]

1. Give some account *either* of the tale of Troy *or* of the tale of Alexander, as told in English Romances.
2. How far did the Romance lend itself to humorous matter or to burlesque?
3. Classify and describe the main metres in which English Romances were written.
4. Write *brief* notes on each of the following:—*King Horn*, *William of Palerne*, *Li Beaus Desconnus*, *The Seven Sages*.
5. Compare Malory's treatment of *two* of the following—Arthur, Gawain, and Lancelot, with the treatment of them by preceding English writers.
6. Shew generally how Malory used his materials.
7. Give the argument of *The Kingis Quair*, or that of *The Pastime of Pleasure*, adding a short critical note.
8. Appraise the poetical talent *either* of Lydgate *or* of Occleve.



9. In what various ways do the Scottish poets of the Fifteenth century regard and describe Nature ?

10. Summarise the literary career, and characterise the genius, of Dunbar.

11. Elucidate, giving author and context :—

- (a) "To yow, Cleo, and to yow, Polymye,  
With Thesiphone, goddis and sistris all."  
(b) "Quha wait gif all that Chauceir wrait was trew ?"  
(c) "Thou beris of makaris the tryumph riall ;  
Thy fresch anamalit termes celicall  
This mater coud illumynit haue full brycht."  
(d) "Allas ! I woful creature,  
Lyveng betwene hope and drede,  
How myght I the woo endure,  
In tendrenesse of wommanhede ?"

12. Say shortly how the technique of English prose was advanced by Wyclif, by Malory, and by Berners.

#### FIFTH PAPER.

MONDAY, 2nd April 1900.—9 A.M. to 12 NOON.

[N.B.—At least two questions must be answered out of each part of the paper, and at least ONE of these in each case must be translation.]

#### A.

1. Translate with short notes :—

- (a) Ʒespræc þa se Ʒoda Ʒylpworda sum,  
Beowulf Ʒeata, ær he on bed stige :  
"No ic me an herewæsmum hnaƷran talige  
ƷuþƷeweorca, þonne Ʒrendel hine !  
forþan ic hine sweorde swebban nelle,  
aldre beneotan, þeah ic eal mæƷe.  
Nat he þara Ʒoda, þæt he me onƷean slea,  
rand Ʒeheawe, þeah ðe he rof sie

nipgeweorca : ac wit on niht sculon  
 secge ofersittan, gif he gesecean dear  
 wiȝ ofer wæpen, and sipðan witiȝ god  
 on swa hwæpere hond, haliȝ dryhten  
 mæro deme, swa him gemet pince !”

Hylde hine þa heapodeor : hleorbolster onfeng  
 eorles andwlitan and hine ymb moniȝ  
 snellic særinc selereste gebeah.

Nænig heora pohte, þæt he þanon scolde  
 eft eardlufan æfre gesecean,  
 folc oððe freoburh, þær he afeded wæs :  
 ac hie hæfdon gefrunen, þæt hie ær to fela micles  
 in þæm winsele wældeað fornam,  
 Denigea leode.

- (b) Fyrst forð gewat : flota wæs on yðum,  
 bat under beorȝe. Beornas gearwe  
 on stefn stigon ; streamas wundon  
 sund wið sande. Secȝas bæron  
 on bearm nacan beorhte frætwe,  
 ġuðsearo ġeatolic ; ġuman ut scuon,  
 weras on wilsid wudu bundenne.  
 Ġewat þa ofer wæȝholm winde gefysed  
 flota famigheals, fugle ġelicost,  
 oð þæt ymb antid opres dogores  
 wundenstefna ġewaden hæfde,  
 þæt ða liðende land ġesawon,  
 brimclifu blican, beorȝas steape,  
 side sænæssas. Þa wæs sund liden  
 eoletes æt ende. Þanon up hraðe  
 Wedera leode on wang stigon,  
 sæwudu sældon, syrcan hrysedon,  
 ġuðġewædo ; ġode þancedon,  
 þæs þe him yplade eaðe wurdon.

2. Discuss the artistic value of the "episodes" in *Beowulf*.

3. Translate:—

Onð eac ealla oðra Cristena ðioda sumne dæl hiora on hiora agen geðiode wendon. For ðy me ðyncð betre, gif iow swæ ðyncð, ðæt we eac suma bec, ða ðe niedbeðearfosta sien eallum monnum to wiotonne, ðæt we ða on ðæt geðiode wenden ðe we ealle geenawan mægen, ond we don swæ we swiðe eaðe maƷon mid Ʒodes fultume, gif we ða stilnesse habbað, ðætte eall sio ƷioƷuð ðe nu is on Angelecyne friora monna, ðara ðe ða speda hæbben ðæt hie ðæm befeolan mægen, sien to liornunga oðfæste, ða hwile ðe hie to nanre oðerre note ne mægen, oð ðone first ðe hie wel cunnen Englisc Ʒewrit arædan: lære mon siððan furður on Lædengeðiode ða ðe mon furðor læran wille, ond to hierran hade don wille. Pa ic ða Ʒemunde hu sio lar Lædengeðioðes ær pißsum afeallen wæs Ʒionð Angelecyne, ond peah monige cuðon Englisc Ʒewrit arædan, ða onƷanƷ ic onƷemanƷ oðrum mislicum ond manigfealdum bißƷum ðisses kynerices ða boc wendan on Englisc ðe is Ʒenemued on Læden "Pastoralis," ond on Englisc "Hierdeboc," hwilum word be worde, hwilum andƷit of andƷiete, swæ swæ ic hie Ʒeliornode æt PleƷmunde minum ærcebißepe, ond æt Assere minum bißepe . . . siððan ic hie ða Ʒeliornod hæfde, swæ swæ ic hie forstod, ond swæ ic hie andƷitfullicost areccean meahte, ic hie on Englisc awende; ond to ælcum bißepestole on minum rice wille ane onsendan; ond on ælcere bið an æstel, se bið on fifteƷum mancessa.

4. Distinguish the educational aims of Alfred.

## B.

5. Translate:—

- (a) Beorht wæron burƷræced, burnsele monige,  
 heah hornƷestreon, heresweƷ micel,  
 meodoheall monig, mandreama full,  
 . op þæt þæt onwende wyrd seo swiƷe.

Crungon walo wide, cwoman woldagas :  
 swylt eall fornóm secgrof wera ;  
 wurdon hyra wigstæal westen stapolas,  
 brosnade burgsteall. Betend crungon  
 hergas to hrusan. Forþon þas hofu dreorgiað  
 and þæs teafor geapu, tigelum sceadeð  
 hrost beages hrof ; hryre wonȝ gecronȝ,  
 gebrocen to beorgum, þær in beorn monig  
 glædmod and goldbeorht, gleoma gefrætweð,  
 wlonc and wingal wighyrstum scan,  
 seah on sinc, on sylfor, on searogimmas,  
 on ead, on æht, on eorcanstan,  
 on þas beorhtan burg bradan rices.

- (b) Her Æpelstan einȝ, eorla drihten,  
 beorna beaȝȝifa *and* his broþor eac,  
 Eadmund æpelinȝ ealdorlangne tir  
 geslogan æt sake sweorda ecȝum  
 embe Brunanburh ; bordweall clufan,  
 heowan heaðolinda hamora lafum  
 eaforan Edweardes ; swa him geæpele wæs  
 fram cneomagum, þæt hie æt campe oft  
 wið laðra gehwane land ealȝodan,  
 hord *and* hamas. Hettend crungon,  
 Scotta leode *and* scipflotan  
 fæge feollan ; feld dennade  
 secȝa swate, sippan sunne upp  
 on morgentid, mære tungol,  
 ȝlad ofer ȝrundas ȝodes candel beorht,  
 eces drihtnes, oþ þæt seo æpele ȝesceaft  
 sah to setle. Þær læȝ secȝ manig  
 ȝarum forȝrunden, ȝuman norðerne,  
 ofer scyld sceoten swylce Scyttisc eac,  
 werig wigȝes sæd.

6. Translate:—

(a) þonne bið aweaxen wyrtum in gemonge  
 fugel feþrum deal, feorh bið niwe  
 geonȝ geofona ful, þonne he of greote his  
 lic leópucræftig, þæt ær lig fornom,  
 somnað swoles lafe, searwum geȝædrað  
 ban ȝebrosnað æfter bælpæce  
 and þonne ȝebringeð ban and yslan  
 ades lafe eft ætsomme  
 and þonne þæt wælreaf wyrtum biteldeð  
 fægze gefrætwed.

(b) Ac onmanȝ þam ðe Enoch and Elias þus spræcon, heom  
 þær to becom sum wer þe wæs earmlices hywes and wæs  
 berende anre rode tacen on uppan hys exlum; ac þa halȝan  
 hyne þa sona ȝesawon, and hym to cwædon, “Hwæt eart þu  
 þe ðyn ansyn ys swylce anes sceaðan, and hwæt ys þæt tacen  
 þe þu on uppan þinum exlum byrst?” He hym andswarode  
 and cwæð, “Soð ȝe secȝað þæt ic sceaða wæs and ealle yfelu on  
 eorðan wyrcende, ac þa Iudeas me wyð þone Hælend ahengon,  
 and ic þa ȝeseah ealle þa þing þe be þam Hælende on þære  
 rode ȝedone wæron, and ic þa sona ȝelyfde þæt he wæs ealra  
 ȝesceafta Scyppend and se ælmyhtiga Cyning; and ic hyne  
 þa ȝeorne bæd and þus cwæð ‘Eala Dryhten, ȝemun þu myn  
 þonne þu on þyn ryce cymest.’ And he wæs myne bene sona  
 onfonde, and be me to cwæð, ‘To soðon ic þe secȝe, to dæg  
 þu byst myd me on neorxnawange.’”

7. What accounts can be given of the “expanded lines” in Old English verse? Describe them technically, and say where they occur.

8. Trace from the first the growth of the Modern English gerund.

9. Estimate the share in Old English vocabulary of *two* of the following elements—Celtic, Latin, Danish. Illustrate.

10. What are the chief characteristics of the northern dialect in Old English ?

SIXTH PAPER.

MONDAY, 2nd April 1900.—2 to 5 P.M.

1. Specify the dialects of the following, giving reasons:—

(a) Lauerd haue merci of us forðon þa pinen of helle we ham ne mazen iðolien. Seoð-pan he him sceawede ane stude inne-midde-warde helle . and bi foren þam ilke stude weren seofen clusterlokan þar neh ne mihte nan liuiende mon gan for þan ufele breðe and þer wið-inna he him sceawede gan on ald mon þet. iiii. deoffen ledden abuten.

(b) Ðe leun stant on hille,  
And he man hunten here,  
Oðer ðurg his nese smel  
Smake ðat he negge,  
Bi wilc weie so he wile  
To dele niðer wenden,  
Alle hise fet-steppes  
After him he filleth,  
Drageð dust with his stert  
Ðer he [dun] steppeð.

(c) As I thus lay ryght to my spreit was sen  
A birde, yat was as ony lawrare gren,  
A-licht, and sayth in to hir birdis chere ;  
'O woful wrech, that levis in to were !  
To schew the thus the god of loue me sent,  
That of thi service no thing is content,  
For in his court yhoue lewith in disspar,  
And vilfully sustenis al thi care,  
And schapith no thinge of thine awn remede  
Bot clepith ay and cryith apone dede.



- (d) Thus eschapit the nobill kyng;  
 Bot sum men sais, this eschaping  
 Apon ane othir maner fell  
 Than throu the vading; for thai tell,  
 That the kyng a gud archer had,  
 And quhen he saw his lord swa stad,  
 That he wes left swa anerly,  
 He ran on fut alwayis hym by,  
 Till he in-till the wod wes gane.

2. Translate, with short notes:—

- (a) þeos ule þo heo pis i-herde,  
 ‘Havestu,’ heo seide, i-banned ferde?  
 An wultu, wrecche, wið me figte?  
 Nai, nai, navestu none migte.  
 Hwat gredeþ þeo þat hider come?  
 Me puncþ þu ledest ferde to me.  
 Ȝe schule wite, ar ȝe fleo heonne,  
 Hwuch is þe strenþe of mine kunne;  
 For þeo þe haveþ bile i-hoked,  
 And clivres scharpe and wel i-croked,  
 Alle heo beoþ of mine kunrede,  
 And walde come, ȝif ich bede;  
 þe seolfe coc, þat wel can figte,  
 He mot mid me holde mid rigte,  
 For þoþe we habbeþ stevene brigte,  
 And sitteþ under weolcne bi nigte.

- (b) Thenne sone com þe seueneþe day · when samned wern alle,  
 & alle woned in the whichche · þe wylde & the tame.  
 þen bolned þe abyne · & bonkeȝ con ryse,  
 Waltes out vch walle-heued · in ful wode stremeȝ,  
 Watȝ no brymme þat abod · vnbrosten bylyue,  
 þe mukel lauande loghe · to þe lyfte rered.  
 Mony clustered clowde · clef alle in clowteȝ,

To-rent vch a rayn-ryfte · & rusched to the vrpe,  
 Fon neuer in forty dayez · & þen þe flod ryseþ;  
 Ouer-waltez vche a wod · & þe wyd feldez;  
 For when þe water of þe welkyn · with þe worlde m  
 Alle pat deth mogt dryge · drowned per-inne;  
 þer watȝ moon forto make · when meschef was enov  
 pat nogt dowed bot þe deth · in þe depe stremez.

3. Translate:—

- (a) A gentil Maunciple was ther of a temple,  
 Of which achatours mighte take exemple  
 For to be wyse in bying of vitaille;  
 For whether that he payde, or took by  
 Algate he wayted so in his achat,  
 That he was ay biforn and in good stat.  
 Now is nat that of God a ful fair grace,  
 That swich a lewed mannes wit shal pa  
 The wisdom of an heep of lerned men  
 Of maistres hadde he mo than thryes t  
 That were of lawe expert and curious  
 Of which ther were a doseyn in that h  
 Worthy to been stiwardes of rente an  
 Of any lord that is in Engelond,  
 To make him live by his propre good.  
 In honour dettelees, but he were  
 Or live as scarsly as him list desir  
 And able for to helpen al a shire  
 In any cas that mighte falle or hap  
 And yit this maunciple sette hir al  
 (b) Love, that of erthe and see hath go  
 Love, that his hestes hath in heven  
 Love, that with an holsom alliaunce  
 Halt peples joyned, as him list hen  
 Love, that knetteth lawe of compan

And couples doth in vertu for to dwelle,  
Bind this acord, that I have told and telle ;  
That that the world with feyth, which that is stable,  
Dyverseth so his stoundes concordinge,  
That elements that been so discordable  
Holden a bond perpetuely duringe,  
That Phebus mote his rosy day forth bringe,  
And that the mone hath lordship over the nightes,  
Al this doth Love ; ay heried be his mightes.

- (c) A blisful lyf, a paisible and a swete  
Ledden the peples in the former age ;  
They helde hem payed of fruites, that they ete,  
Which that the felde gave them by usage ;  
They ne were not forpampred with outrage ;  
Unknowen was the quern and eek the melle ;  
They eten mast, hawes, and swich pounage,  
And dronken water of the colde welle.

Yit nas the ground nat wounded with the plough,  
But corn up-sprong, unsowe of mannes hond,  
The which they gniden, and eete nat half y-nough.  
No man yit knew the forwes of his lond ;  
No man the fyr out of the flint yit fond ;  
Un-knowen and un-grobbed lay the vyne ;  
No man yit in the mortar spyces grond  
To clarre, ne to sause of galantyne.

No mader, welde, or wood no litestere  
Ne knew ; the flees was of his former hewe.

4. Translate, with notes on language :—

(a) Quhen thir scheiphyrdis hed tald al thyr pleysand  
storeis, than thay and ther vyuis began to sing suet melodius  
sangis of natural music of the antiquite. the foure marmadyns  
that sang quhen thetis vas mareit on month pillion, thai sang

nocht sa sueit as did thir scheiphirdis, quhilkis ar callit to name, parthenopie, leucolia, illigeatempora, the feyrd callit legia, for thir scheiphirdis excedit al thir four marmadyns in melodius music, in gude accorddis and reportis of dyapason prolations, and dyatessaron. the musician amphion quhilk sang sa dulce, quhil that the stanis mouit, and alse the scheip and nolt, and the foulis of the ayr, pronuncit there bestial voce to sing vitht hym. ȝit nochtheles his ermonius sang prefferrit nocht the sueit sangis of thir foir said scheiphirdis.

- (b) This lady liftit vp his cluvis clere,  
 And leit him listly lene vpone hir kne,  
 And crownit him with dyadem full deir,  
 . . . Saying . . .  
 "Exerce justice with mercy and conscience,  
 And lat no small beist suffir skaith na scornis  
 Of greit beistis that bene of moir piscence ;  
 Do law elyk to aipis and unicornis,  
 And lat na bowgle with his busteous hornis  
 The meik pluch ox oppress, for all his pryd,  
 Bot in the ȝok go peciable him besyd. . . .  
 Syne crownit scho the egle king of fowlis,  
 And as steill dertis scherpit scho his pennis,  
 And bawd him be als just to awppis and owlis,  
 As vnto pacokkis, papingais, or crennis,  
 And mak a law for wycht fowlis and for wrennis ;  
 And lat no fowll of ravyne do efferay,  
 Nor devoir birdis but his awin pray.

Explain the context in this passage, and the reference of the poem in which it comes.

5. Note the *main* peculiarities of form and inflection in the Scottish language towards the close of the 15th century.

6. What circumstances caused words of Romance origin to

bulk so large in literary Scots of the 16th century? Illustrate from Gavin Douglas the large part that they play in diction.

7. Give an account of the more important Old English or Middle Scots MS. collections.

*Or,*

Give the main distinctions between A.-S. handwriting (of the 9th to 12th centuries) and A.-F. handwriting (of the 13th century).

*Or,*

What general rules should be observed in preparing a printed text of an Early Middle English MS.?

## BRITISH HISTORY.

### FIRST PAPER.

TUESDAY, 3rd April 1900.—9 to 12 o'clock.

N.B.—*Not more than FOUR questions should be attempted in either section.*

### SECTION I.

1. "But for the Danish and Norman Conquests the consolidation of England might have been indefinitely delayed." Discuss this statement.

2. Trace the political and ecclesiastical development of Scotland from the coming of St. Columba till the reign of Kenneth MacAlpin.

3. In what respects did the political and social organisation introduced by William I differ (1) from the feudalism of the Continent, and (2) from the system in England previous to the Norman Conquest?

4. Compare the importance in Scottish development of the reigns of Malcolm Canmore and David I.

5. Show how the continental relations of Henry II influenced the subsequent foreign policy of England.

6. How far is it possible to trace the causes of the Wars of the Roses back to the fourteenth century ?

7. "With the reign of Henry VII the Middle Age ends and the Modern begins." Show the force of this statement under the heads of politics, studies, and religion.

8. Contrast the Reformation in England with the similar revolution in Scotland.

9. "It was not English arms but the English Constitution that conquered Ireland" — (Burke). Illustrate this remark from the history of Ireland till the death of Elizabeth.

## SECTION II.

10. Trace the history of the principle of toleration in the seventeenth century till its expression in Locke.

11. Estimate the importance of the Revolution of 1688-9 in the history of English foreign policy.

12. Discuss the political influence of the press during the reign of Queen Anne.

13. The beginning of Cabinet Government has been ascribed to Sir Robert Walpole. What is implied in this ?

14. "The parting between England and her American colonies was sure to come." What is the justification of this statement ?

15. Describe "Grattan's Parliament" in connection with the legislative union that followed.

16. Show from the career of the younger Pitt that both of the great English parties may claim him.

17. Examine the influence of the great war with France upon the social and economic condition of England.

18. "To speak of Britain's foreign possession as colonies or as an Empire is misleading." What is implied in this remark ?



SECOND PAPER.

TUESDAY, 3rd April 1900.—2 to 5 o'clock.

N.B.—Not more than SEVEN questions should be attempted.

1. State accurately the points in dispute between King and Parliament at the following dates:—1610, 1621, 1629, 1642.

2. How far does the foreign policy of James I justify his claim to be a master of kingcraft?

3. Give some account of the territorial acquisitions of England during this period, stating the geographical position of each, and showing how it was acquired.

4. Illustrate from the events of 1638-39 the constitutional weakness of the Scottish estates.

5. Describe the social, ecclesiastical, and political condition of Scotland during Cromwell's Protectorate.

6. How far did the Restoration undo the results of the Great Rebellion?

7. Estimate the constitutional importance of (1) the debates on the Exclusion Bill; (2) the Trial of the Seven Bishops.

8. Explain the effect of James II's government upon the state and conduct of parties in Ireland.

9. Comment briefly on the following passages, explaining the context:—

(a) The law knows no such king-yoking policy. The law is of itself an old and trusty servant of the king's; it is his instrument which he useth to govern the people by. I never heard nor read that *lex* was *Rex*; but it is common and most true that *Rex* is *lex*, for he is *lex loquens*, a living, a speaking and acting law; and because the king is *lex loquens*, therefore it is said that *Rex censetur habere omnia jura in Scrinio pectoris sui*.

(b) Pour vous le faire entendre plus particulièrement, elle vous dit qu'elle est preste de confirmer pour trois ans le

Gouvernement Presbytéral puisqu'il a esté pour ce temps estably par les deux maisons.

(c) The duty I owe to God in the preservation of the true liberty of my people will not suffer me at this time to be silent ; for how can any free-born subject of England call life or any thing he possesseth his own, if power without right daily make new, and abrogate the old fundamental laws of the land, which I now take to be the present case ?

(d) That the power of making war is only in the Lord Protector and the Parliament.

10. How far is it correct to say that the Petition of Right owes its importance rather to the circumstances under which it was adopted than to its actual contents ?

11. Compare the general scope of the Nineteen Propositions with those of the so-called Treaty of Oxford, and account for the difference.

12. Comment on the statement that "it was not in consequence of its merits or demerits as a constitutional settlement that the Instrument of Government failed."

13. Compare the financial system under the Protectorate with that under Charles I, and show the importance of the changes which had been made.

14. Explain and illustrate Cromwell's doctrines and practice on the subject of "toleration."

(CIVIL AND RELIGIOUS LIBERTY : 1384-1563.)

FIRST PAPER.

MONDAY, 2nd April 1900.—9 to 12 o'clock.

State your views briefly on any six of—

1. Dawn of civil and religious Reform.
2. Effect of the Statutes of 1401 and 1414 on Lollardy.
3. Hus, Jerome, and Peter Payne.

4. Survival of Wycliffe's influence in the 15th century.
5. Decline of the religious houses.
6. The Oxford Reformers.
7. Case of Dr. Standish.
8. The Reformation Parliament.
9. Results of the policy of Henry VIII.
10. Ecclesiastical policy of Queen Elizabeth.
11. "The modern Church of England dates from 1563."

SECOND PAPER.

MONDAY, 2nd April 1900.—2 to 5 o'clock.

Explain and discuss *six* of:—

1. The Pope had no more power than another prest. Temporal lordes may take away the godes fro the Chereh, Bischoppis schuld have no prisoners. . . . The eld dampned opinion of Berengari. It was lasse synne to worchip a tode.

2. Et ut sua doctrina plures inficeret, ad le Blaketh, ubi ducenta millia hominum communium simul congregata, hujusmodi sermonen est exorsus— "when Adam dalf and Eve span, Wo was thanne a gentilman?"

3. In the third yere of this Herry was a Parlement at London, wher was mad a statute ageyn Lollardis, that where evyr thei were founde preching her evel doctrine thei schuld be take and presentid to the bischop.

4. The king asked a grete summe of the puple. And the Speker of the Parlement answered that swech summes myte not be rered so ofte in the puple, but if the Chereh schuld be put fro her temporaltes. This answer was gov by ser Jon Chene.

5. He sette not his benefice to hyre,  
And leet his scheep encombred in the myre,  
And ran to Londone, unto seynte Poules,  
To seeken him a chaunterie for soules.

6. With him ther was a ploughman, was his brother,  
That hadde i-lad of dong ful many a fother,  
A trewe swynkere and a good was he,  
Lyvyng in pees and perflight charitee.
7. Alle lybbyng laboreres · that lyuen with her hondes,  
That trewlich taken · and trewlich wynnen,  
And lyuen in loue and in lawe · for her lowe hertis,  
Haueth the same absolucioun · that sent was to Peres.
8. Videtur mihi inprimis quod, sicut necesse est clerum ecclesie leges civiles secularium principum . . . veneranter accipere, sic necesse est eos leges civiles, si legi Dei dissonant, prudenter tollere.
9. Nam ex lege nature, et per consequens ex lege divina, oportet regem defendere legem propriam, et obediendo ac implendo ipsam exemplare aliis quomodo parebunt eidem.
10. Chief civil and religious doctrines of the (a) Utopia, (b) Praise of Folly, (c) Novum Instrumentum, and (d) Institutio Principis Christiani.

## (E)—MODERN LANGUAGES AND LITERATURE.

### FRENCH—(PRESCRIBED BOOKS).

#### FIRST PAPER.

MONDAY, 2nd April 1900.—9 A.M. to 12 NOON.

Translate into English :—

(a) *Giton* a le teint frais, le visage plein et les joues pendantes, la démarche ferme et délibérée. Il parle avec confiance ; il fait répéter celui qui l'entretient, et il ne goûte que médiocrement tout ce qu'il lui dit. Il déploie un ample mouchoir, et se mouche avec grand bruit : il crache fort loin, et il éternue fort

haut. Il dort le jour, il dort la nuit, et profondément ; il ronfle en compagnie. Il occupe à table et à la promenade plus de place qu'un autre ; il tient le milieu en se promenant avec ses égaux ; il s'arrête, et l'on s'arrête ; il continue de marcher, et l'on marche ; tous se règlent sur lui. Il interrompt, il redresse ceux qui ont la parole ; on ne l'interrompt pas, on l'écoute aussi longtemps qu'il veut parler ; on est de son avis, on croit les nouvelles qu'il débite. S'il s'assied, vous le voyez s'enfoncer dans un fauteuil, croiser les jambes l'une sur l'autre, froncer le sourcil, abaisser son chapeau sur ses yeux pour ne voir personne, ou le relever ensuite, et découvrir son front par fierté et par audace. Il est enjoué, grand rieur, impatient, présomptueux, colère, libertin, politique, mystérieux sur les affaires du temps ; il se croit des talents et de l'esprit. Il est riche.

(b) Rome, l'unique objet de mon ressentiment !

Rome, à qui vient ton bras d'immoler mon amant !

Rome qui t'a vu naître et que ton cœur adore !

Rome enfin que je hais parce qu'elle t'honore !

Puissent, tous ses voisins, ensemble conjurés,

Saper ses fondements encor mal assurés !

Et, si ce n'est assez de toute l'Italie,

Que l'Orient contre elle à l'Occident s'allie ;

Que cent peuples unis des bouts de l'univers

Passent pour la détruire et les monts et les mers.

Qu'elle-même sur soi renverse ses murailles,

Et de ses propres mains déchire ses entrailles ;

Que le courroux du ciel allumé par mes vœux

Fasse pleuvoir sur elle un déluge de feux !

Puissé-je de mes yeux y voir tomber ce foudre,

Voir ses maisons en cendre, et tes lauriers en poudre,

Voir le dernier Romain à son dernier soupir,

Moi seule en être cause, et mourir de plaisir !

(c) Au voleur ! au voleur ! à l'assassin ! au meurtrier ! Justice,

juste ciel ! je suis perdu, je suis assassiné ; on m'a coupé la gorge : on m'a dérobé mon argent. Qui peut-ce être ? Qu'est-il devenu ? Où est-il ? Où se cache-t-il ? Que ferai-je pour le trouver ? Où courir ? Où ne pas courir ? N'est-il point là ? N'est-il point ici ? Qui est-ce ? Arrête. (*A lui-même, se prenant par le bras.*) Rends-moi mon argent, coquin . . . Ah ! c'est moi ! Mon esprit est troublé, et j'ignore où je suis, qui je suis, et ce que je fais. Hélas ! mon pauvre argent ! mon pauvre argent ! mon cher ami ! on m'a privé de toi ; et, puisque tu m'es enlevé, j'ai perdu mon support, ma consolation, ma joie : tout est fini pour moi, et je n'ai plus que faire au monde. Sans toi, il m'est impossible de vivre. C'en est fait ; je n'en puis plus ; je me meurs ; je suis mort ; je suis enterré. N'y a-t-il personne qui veuille me ressusciter, en me rendant mon argent, ou en m'apprenant qui l'a pris ? Euh ! que dites-vous ? Ce n'est personne. Il faut, qui que ce soit qui ait fait le coup, qu'avec beaucoup de soin on ait épié l'heure ; et l'on a choisi justement le temps que je parlais à mon traître de fils. Sortons. Je veux aller quérir la justice et faire donner la question à toute ma maison ; à servantes, à valets, à fils, à fille, et à moi aussi. Que de gens assemblés ! Je ne jette mes regards sur personne qui ne me donne des soupçons, et tout me semble mon voleur. Hé ! de quoi est-ce qu'on parle là ? de celui qui m'a dérobé ? Quel bruit fait-on là-haut ? Est-ce mon voleur qui y est ? De grâce, si l'on sait des nouvelles de mon voleur, je supplie que l'on m'en dise. N'est-il point caché là parmi vous ? Ils me regardent tous, et se mettent à rire. Vous verrez qu'ils ont part, sans doute, au vol que l'on m'a fait. Allons vite, des commissaires, des archers, des prévôts, des juges, des gênes, des potences et des bourreaux. Je veux faire pendre tout le monde ; et, si je ne retrouve mon argent, je me pendrai moi-même après.

(d) Ils gisent dans le champ terrible et solitaire.



Leur sang fait une mare affreuse sur la terre ;  
Les vautours monstrueux fouillent leur ventre ouvert ;  
Leurs corps farouches, froids, épars sur le pré vert,  
Effroyables, tordus, noirs, ont toutes les formes  
Que le tonnerre donne aux foudroyés énormes ;  
Leur crâne est à la pierre aveugle ressemblant ;  
La neige les modèle avec son linceul blanc ;  
On dirait que leur main lugubre, âpre et crispée,  
Tâche encor de chasser quelqu'un à coup d'épée ;  
Ils n'ont pas de parole, ils n'ont pas de regard ;  
Sur l'immobilité de leur sommeil hagard  
Les nuits passent ; ils ont plus de chocs et de plaies  
Que les suppliciés promenés sur des claies ;  
Sous eux rampent le ver, la larve et la fourmi ;  
Ils s'enfoncent déjà dans la terre à demi  
Comme dans l'eau profonde un navire qui sombre ;  
Leurs pâles os, couverts de pourriture et d'ombre,  
Sont comme ceux auxquels Ézéchiël parlait ;  
On voit partout sur eux l'affreux coup du boulet,  
La balafre du sabre et le trou de la lance ;  
Le vaste vent glacé souffle sur ce silence ;  
Ils sont nus et sanglants sous le ciel pluvieux.  
O morts pour mon pays, je suis votre envieux.

(e) Auguste feut bien ayse d'avoir trouvé un advocat de son humeur ; et ayant remercié sa femme et contremandé ses amis qu'il aveit assignez au conseil, commanda qu'on feist venir à luy Cinna tout seul : et ayant faict sortir tout le monde de sa chambre, et faict donner un siege à Cinna, il luy parla en cette maniere : En premier lieu, je te demande, Cinna, paisible audience : n'interromps pas mon parler ; je te donray temps et loisir d'y respondre. Tu sçais, Cinna, que t'ayant prins au camp de mes ennemis, non seulement t'estant faict mon ennemy, mais estant nay tel, je te sauvay, je te meis entre mains tous

tes biens, et t'ay enfin rendu si accommodé et si aysé, que les victorieux sont envieux de la condition du vaincu : l'office du sacerdoce que tu me demandas, je te l'octroyay, l'ayant refusé à d'autres desquels les peres avoient toujours combattu avecques moy. T'ayant si fort obligé, tu as entrepris de me tuer.

(f) Charle ! Charle ! ô mon fils ! quoi donc, tu m'as quitté.

Ah ! tout fuit ! rien ne dure !

Tu t'es évanoui dans la grande clarté

Qui pour nous est obscure.

Charles, mon couchant voit périr ton orient.

Comme nous nous aimâmes !

L'homme, hélas ! crée, et rêve, et lie en souriant

Son âme à d'autres âmes ;

Il dit : C'est éternel ! et poursuit son chemin ;

Il se met à descendre,

Vit, souffre, et tout à coup dans le creux de sa main

N'a plus que de la cendre.

Hier j'étais proscrit. Vingt ans, des mers captif,

J'errai, l'âme meurtrie ;

Le sort nous frappe, et seul il connaît le motif.

Dieu m'ôta la patrie.

Aujourd'hui je n'ai plus de tout ce que j'avais

Qu'un fils et qu'une fille ;

Me voilà presque seul dans cette ombre où je vais ;

Dieu m'ôte la famille.

Oh ! demeurez, vous deux qui me restez ! nos nids

Tombent, mais votre mère

Vous bénit dans la mort sombre, et je vous bénis

Moi, dans la vie amère.

(g) Cette forte doctrine a le défaut de tout expliquer : elle ne fait pas apparaître les éléments encore inexplicables de l'œuvre littéraire. Elle ne tient pas compte de la nature individuelle :

non pas du caractère, qui est résolu en influences composées de la race, du milieu et du moment ; mais du génie, de la précision de la vocation, et de l'intensité de la création. Je comprends bien pourquoi il y a eu une tragédie française : mais pourquoi l'individu Corneille, pourquoi l'individu Racine ont-ils fait des tragédies ? La Fontaine, écrivant, devait manifester l'originalité analysée par Taine : devait-il la manifester par des *Fables* ? Je ne le vois pas clairement. Sans faire intervenir la liberté, il y a là un effet dont les trois causes de Taine ne rendent pas compte. Puis, la théorie explique Pradon et Racine : elle explique même, je le veux bien, pourquoi Racine, janséniste, a mis dans son œuvre ce que Pradon, ignorant et galant, ne mettait pas dans la sienne ; mais la différence d'intensité, d'énergie dans les esprits, de beauté dans les ouvrages, d'où vient-elle ? Pourquoi le niveau de Pradon et de Racine n'est-il pas le même ? Voilà ce que la théorie ne fait pas voir. Tout ce qui fait Shakespeare, pouvait faire un Shakespeare médiocre aussi bien qu'un Shakespeare puissant : l'écrivain est déterminé, la *grandeur* de l'écrivain ne l'est pas.

(h) Poursuis, Néron : avec de tels ministres,  
 Par des faits glorieux tu te vas signaler ;  
 Poursuis. Tu n'as pas fait ce pas pour reculer.  
 Ta main a commencé par le sang de ton frère ;  
 Je prévois que tes coups viendront jusqu'à ta mère.  
 Dans le fond de ton cœur je sais que tu me hais ;  
 Tu voudras t'affranchir du joug de mes bienfaits.  
 Mais je veux que ma mort te soit même inutile.  
 Ne crois pas qu'en mourant je te laisse tranquille.  
 Rome, ce ciel, ce jour que tu reçus de moi,  
 Partout, à tout moment, m'offriront devant toi.  
 Tes remords te suivront comme autant de furies ;  
 Tu croiras les calmer par d'autres barbaries ;  
 Ta fureur, s'irritant soi-même dans son cours,

D'un sang toujours nouveau marquera tous tes jours.  
 Mais j'espère qu'enfin le ciel, las de tes crimes,  
 Ajouterà ta perte à tant d'autres victimes ;  
 Qu'après t'être couvert de leur sang et du mien,  
 Tu te verras forcé de répandre le tien ;  
 Et ton nom paraîtra, dans la race future,  
 Aux plus cruels tyrans une cruelle injure.  
 Voilà ce que mon cœur se présage de toi.  
 Adieu : tu peux sortir.

en?  
 .è SECOND PAPER.

TUESDAY, 3rd April 1900.—2 to 5 P.M.

I. Translate into French :—

(a) Some time since I was in the company of a French actor, who began after dinner, and at his own request, to sing French songs of the sort called *des chansons grivoises*, which he performed admirably, and to the dissatisfaction of most persons present. Having finished these, he commenced a sentimental ballad—it was so charmingly sung that it touched all persons present, and especially the singer himself, whose voice trembled, whose eyes filled with emotion, and who was weeping quite genuine tears by the time his own ditty was over. I suppose Sterne had this artistical sensibility ; he used to blubber perpetually in his study, and finding his tears infectious, and that they brought him a great popularity, he exercised the lucrative gift of weeping, he utilised it, and cried on every occasion. I own that I don't value or respect much the cheap dribble of those fountains.

THACKERAY.

(b) The young cavalier we have so often mentioned had probably never yet approached so near the person of his sovereign, and he pressed forward as far as the line of warders permitted, in order to avail himself of the present opportunity. His

companion, on the contrary, cursing his imprudence, kept drawing him backwards, till Walter shook him off impatiently, and let his rich cloak drop carelessly from one shoulder: a natural action, which served, however, to display to the best advantage his well-proportioned person. Unbonneting at the same time he fixed his eager gaze on the Queen's approach, with a mixture of respectful curiosity, and modest yet ardent admiration, which suited so well with his fine features, that the warders, struck with his rich attire and noble countenance, suffered him to approach the ground over which the Queen was to pass, somewhat closer than was permitted to ordinary spectators.

SCOTT.

(c) No species of superstition was ever more terrible than that of the Druids. Besides the severe penalties which it was in the power of the priests to inflict in this world, they inculcated the eternal transmigration of souls. They practised their rites in dark groves or other secret recesses; and in order to throw a greater mystery over their religion, they communicated their doctrines only to the initiated, and strictly forbade the committing of them to writing, lest they should at any time be exposed to the examination of the profane vulgar. In the ordinary concerns of life, however, they employed writing, their characters being either the Greek or a sort of hieroglyphics formed from the figures of plants. Of the nature of their rites, except their veneration for the oak and mistletoe, we know but little.

HUME.

II. (a) Compare and contrast the "*Chanson de Roland*" and the "*Nibelungen Lied*" from a historical, artistic, psychological, and moral point of view.

(b) Why is it Pascal rather than Descartes who ought to be called the father of French Classical Prose.

## THIRD PAPER.

WEDNESDAY, 4th April 1900.—9 A.M. to 12 NOON.

1. Translate into English the following passages (from books not prescribed) :—

(a) L'Orient produit des contemplatifs, des indolents, des rêveurs, et l'Anglais lui-même a peine à résister aux accablants de son soleil, et pourtant il produit aussi les hommes les plus diligents, les plus pratiques et les plus positifs de la terre. Beaucoup d'Orientaux sont paresseux par dignité, par respect humain. Ils considèrent tout effort comme un abaissement, comme une diminution de l'homme. Ils mettent leur orgueil à ne rien faire : leur engourdissement et leur torpeur sont un signe de noblesse ; les yeux à demi clos, ils regardent vaguement couler les eaux troubles du grand fleuve, et ils font ici-bas leur apprentissage de l'éternel sommeil qui sera la récompense des justes. Autour de ces lions assoupis gambadent et s'agitent une foule de petits bipèdes au museau pointu, très actifs, très industriels, toujours en quête d'occasions, s'intriguant, se fourrant partout et, dans les cas difficiles, payant d'imposture ou d'impudence, prêts à tout affronter, à tout endurer, mépris, rebuffades ou soufflets, pourvu qu'il y ait au bout vingt roupies à empocher. Un jour, leur a dit Manou, ils renaîtront sous la forme impure d'un chacal, d'un renard ou d'une fouine. Qui vivra verra ; ce qui est certain, c'est que la vie est une affaire ; arrangeons-nous pour qu'elle soit bonne. G. VALBERT.

(b) Les portes du palais s'ouvrirent toutes grandes  
 Et le roi don Fernan sortit pour recevoir  
 Le jeune chef rentrant avec ses vieilles bandes.  
 Quittant cloître, métier, champ, taverne et lavoir,  
 Clercs, bourgeois ou vilains, tout le bon peuple exulte ;  
 Les femmes aux balcons se penchent pour mieux voir.



C'est que, vengeur du Christ que le Croissant insulte,  
Rodrigue de Bivar, vainqueur, rentre aujourd'hui  
Dans Zamora qu'emplit un merveilleux tumulte.

Il revient de la guerre et partout devant lui,  
Sur son genet rapide et rayé comme un zèbre  
Le cavalier berbère en blasphémant a fui.

Il a tout pris, pillé, rasé, brûlé, de l'Ebre  
Jusques au Guadiana qui roule un sable d'or,  
Et de l'Algarbe en feu monte un long cri funèbre

Il revient tout chargé de butin, plus encor  
De gloire, ramenant cinq rois de Morérie.  
Ses captifs l'ont nommé le Cid Campeador.

JOSÉ-MARIA DE HEREDIA.

(c) Ce sera la gloire éternelle de Balzac et du roman réaliste d'avoir fait comprendre que les choses les plus mesquines, les spectacles les plus communs et les plus vulgaires portent en eux leur intérêt, et que la vie familière avec le pêle-mêle de ses menus incidents quotidiens et dans son cadre habituel, peut offrir encore de la poésie. Mais qui ne voit qu'il a suffi, pour assurer cette conquête, d'appliquer à l'école moderne les procédés que Scott avait appliqués aux siècles passés, et qu'il n'y a là qu'une transposition de la couleur locale ? "Ivanhoe" nous montre le misérable accoutrement des serfs ou des outlaws, le brillant équipage du Templier, la robe de velours et la mine raffinée du Prieur, l'humble salle à manger de la ferme de Rotherwood ou la splendeur massive du château féodal de Torquilstone : nous verrons dans la "Comédie humaine" et décrits par le menu, les costumes de Lucien de Rubempré ou du père Goriot, l'appartement de la duchesse de Maufrigneuse ou du baron Hulot, l'auberge de la maison Vauquer ou le cabinet d'un médecin pauvre. Les rues mêmes, les maisons, les pièces des maisons et les divers objets qui meublent ces pièces,

“l'archéologue du nobilier social” ne nous fera grâce de rien —et cela dès ses premières nouvelles. LOUIS MAIGRON.

(d) O Paris qui n'es plus Paris, mais une spelunke de bestes farouches, une citadelle d'Espagnols, Wallons et Napolitains, un asyle et seure retraiete de voleurs, meurtriers et assassinateurs, ne veux-tu jamais te ressentir de ta dignité et te souvenir qui tu as esté, au prix de ce que tu es, ne veux-tu jamais te garir de cette frenesie qui, pour un legitime et gracieux roi, t'a engendré cinquante roytelets et cinquante tyrans? Te voilà aux fers, te voilà en l'inquisition d'Espagne, plus intolerable mille fois, et plus dure à supporter aux esprits nez libres et francs, comme sont les Français, que les plus cruelles morts dont les Espagnols se sçauroient aviser. Tu n'as pu supporter une legere augmentation de tailles et d'offices et quelques nouveaux edicts qui ne t'importaient nullement; et tu endures qu'on pille tes maisons, qu'on te rançonne jusques au sang, qu'on emprisonne tes senateurs, qu'on chasse et bannisse tes bons citoyens et conseillers; qu'on pende, qu'on massacre tes principaux magistrats; tu le vois et tu l'endures, tu ne l'endures pas seulement, mais tu l'approuves et le loues, et n'oserois et ne sçauois faire autrement.

LA SATIRE MÉNIPPÉE.

## 2. Answer the following questions:—

(a) Give a general analysis of Montaigne's educational ideas on the chapter: de l'institution des enfants.

(b) What light does the *Apologie de Raimond Sebond* throw on the ethical conditions of France in the end of the sixteenth century?

(c) In what sense does La Bruyère belong to a transition period?

(d) Compare and illustrate by explanatory sentences the following French and English homophons:—1. *agrément* (agreement). 2. *vilain* (villain). 3. *charger* (charge). 4. *chétif* (caitiff). 5. *point* (point). 6. *endurer* (endure). 7. *sécurité* (security).

8. *prix* (price). 9. *avis* (advise). 10. *conseil* (council).  
 11. *argument* (argument). 12. *entretenir* (entertain). 13. *ressentir*  
 (resent). 14. *vœu* (vow). 15. *requérir* (require). 16. *teint* (taint).  
 17. *regard* (regard). 18. *grâce* (grace). 19. *solitaire* (solitary).  
 20. *sévère* (severe).

(c) Analyse the characteristic differences (1) between the syntax of Pascal and the syntax of Voltaire; (2) between the vocabulary of Racine and the vocabulary of Victor Hugo.

## ESSAY.

### FOURTH PAPER.

THURSDAY, 5th April 1900.—9 to 10.30 A.M.

L'autorité classique et académique en France a-t-elle été favorable ou défavorable au progrès de la littérature? Fondez votre argumentation spécialement sur la prose de Montaigne, de Bossuet, de Voltaire et de Flaubert; et sur la poésie de la *Pléiade*, de Corneille et de Victor Hugo.

## GERMAN.

### FIRST PAPER (PRESCRIBED BOOKS).

MONDAY, 2nd April 1900.—2 to 5 P.M.

I. Translate into idiomatic English *two* of the following passages, of which (c) must be one, and answer the questions appended:—

(a) Plötzlich traf ein ungeheurer Donner mein schlummerndes Ohr; ich taumelte bebend auf, und siehe, da war mir's, als fäh' ich aufflammen den ganzen Horizont in feuriger Lohe und Berge und Städte und Wälder wie Wachs im Ofen zerschmelzen, und eine heulende Windsbraut fegte von himmen Meer, Himmel und Erde — da erscholl's wie aus ehernen Posaunen: Erde gib deine Todten,

gib deine Todten, Meer! und das nackte Gefilde begann zu freißén und aufzuwerfen Schädel und Rippen und Kinnbacken und Beine, die sich zusammenzogen in menschliche Leiber und daherströmten unübersehblich, ein lebendiger Sturm. Damals sah ich aufwärts, und siehe, ich stand am Fuß des donnernden Sina, und über mir Gewimmel und unter mir, und oben auf der Höhe des Berges auf drei rauchenden Stühlen drei Männer, vor deren Blick flohe die Creatur.

Locate the above passage and state what literary influences you recognise in it. What is archaic in its diction?

(b) Ein ganzer Nil und Alpheus schoß über jedes Stubenbret, wovon gute Gartenerde wegzuspülen war, an jede Bettpfoste und an den Fensterstock hinan und ließ den gewöhnlichen Bodensatz der Flucht zurück — Sand. Die Geese des Romans würden verlangen, daß das Schulmeisterlein sich anzöge und sich auf eine Wiese unter ein wogendes Zudeck von Gras und Blumen streckte und da durch einen Traum der Liebe nach dem andern hindurch sank' und bräche — allein er rupfte Hühner und Enten ab, spaltete Kaffee- und Bratenholz und die Braten selbst, credenzte am Sonnabend den Sonntag und decretirte und vollzog in der blauen Schürze seiner Schwiegermutter fünfzig Küchenverordnungen und sprang, den Kopf mit Papilloten gehört und das Haar wie einen Eichhörnchenschwanz empor gebunden, hinten und vornen und überall herum: „denn ich mache nicht alle Sonntage Hochzeit,“ sagt' er.

Comment upon the characteristic sentiment contained in the sentence: Die Geese des Romans, etc.

(c) Ahnung schwellte das Herz. Schon war des feiernden Klosters

Ernste Glocke verhallt; schon schwanden die friedlichen Hütten Rund am Blumenhügel umher, am rollenden Gießbach, Unter Triften im Thal, wo dem Ahn in heiliger Urzeit Füglich dünkte der Grund zum Erbe genügsamer Enkel.

Schaurig und kühl empfing uns die Nacht in ewigen Wäldern,

Und wir klonnen hinauf am furchtbar herrlichen Facken.  
Nächtlicher immer ward's und enger im Riesengebirge,  
Täher herunter hing der Pfad zu den einsamen Wallern,  
Dicht zur Rechten donnert' hinab der zürnende Waldstrom,  
Nur sein Donner betäubt den Sinn, die schäumenden Wogen  
Virgt uns Felsengesträuch und modernde Tannen am Abhang,

Vom Orkane gestürzt. — Nun tagte die Nacht am Gebirge  
Schaurig und wunderbar, und, Helldengeister am Lago,  
Wälzten sich kämpfende Wolken heran auf schneeiger Heide.  
Sturm und Frost entschwebte der Klust. Vom Sturme getragen,

Schrie und stürzte der Nar, die Beut' im Thale zu haschen.  
Und der Wolken Hülle zerriß, und im ehernen Panzer  
Kam die Riesin heran, die majestätische Myten,  
Staunend wandelten wir vorüber.

## II. Read, but do not translate :—

Nings um ruhet die Stadt, still wird die erleuchtete Gasse,  
Und mit Fackeln geschmückt, rauschen die Wagen hinweg.  
Satt gehn heim, von Freuden des Tags zu ruhen, die Menschen,  
Und Gewinn und Verlust wäget ein sinniges Haupt  
Wohl zufrieden zu Haus; leer steht von Trauben und Blumen,  
Und von Werken der Hand ruht der geschäftige Markt.  
Aber das Saitenspiel tönt fern aus Gärten; vielleicht, daß  
Dort ein Liebender spielt, oder ein einsamer Mann  
Ferner Freunde gedenkt und der Jugendzeit; und die Brunnen,  
Immerquillend und frisch, rauschen an dustendem Beet.  
Still in dämmriger Luft ertönen geläutete Glocken,  
Und der Stunden gedenk rufet ein Wächter die Zahl.  
Jetzt auch kommet ein Wehn und regt die Gipfel des Hains auf,  
Sieh! und das Ebenbild unserer Erde, der Mond,

Kommet geheim nun auch; die Schwärmerische, die Nacht kommt;  
 Voll mit Sternen und wohl wenig bekümmert um uns  
 Glänzt die Erstaunende dort, die Fremdlingin unter den Menschen,  
 Über Gebirgsanhöhen traurig und prächtig herauf.

Point out briefly what constitutes the charm of this poem.

Comment upon Schiller's statement regarding Hölderlin:—  
 Aufrichtig, ich fand in diesen Gedichten viel von meiner eigenen  
 sonstigen Gestalt; and on Goethe's words:—Ich habe ihm be-  
 sonders geraten, kleine Gedichte zu machen und sich zu jedem einen  
 menschlich interessanten Gegenstand zu wählen.

III. Translate into *idiomatic German*, and answer the questions  
 appended:—

(a) ir enwederz enkunde | einic wort gesprechen. | daz ge-  
 gihte begunde brechen | die muoter von leide. | sus gesāzen si  
 beide | riuwic unde unfro | unz si sich bedāhten dō, | waz in ir  
 trüren tōhte: | so man ir doch niht enmōhte | benemen ir  
 willen unde ir muot, | so enware in niht alsō guot | so daz si  
 irs wol gunden, wan si doch niht enkunden | ir niemer werden  
 āne baz; | enpfingen si der rede haz, | ez mōhte in umbe ir  
 herren | vil harte wol gewerren, | und verviengen anders niht  
 dā mite. | mit vil willecllichem site | sprāchen si beide dō | daz  
 si der rede wāren frō.

Write short philological notes on the underlined words.

(b) Auch wie sie umbgent mit dem Ban, | Wie sie in  
 bschweren und verneuren, Auch wie das arme Volk sie  
 steuren. | Auch mit dem Wilt und dem Gezeit | Tunt sie in  
 schaden am Getreit. | Halten Rauber in iren Flecken, | Die  
 rauben, morden, stöcken, plecken | . . . Die Leut verderben,  
 schätzen, pressen, | Ich mein, das heiss die Schaf gefressen.

Characterise briefly the treatment of sacred subjects by Hans  
 Sachs. What models did he follow in this respect? Trace his  
 influence on Goethe.



(c) Ich bezeuge beim Höchsten, daß sie solche Angst wider meinen Willen eingenommen, hoffe derowegen die Bergebung desto ehender. Was aber den Speck selbst anbelangt, so ist's billich, daß selbiger bezahlt werde, schicke derohalben anstat der Bezahlung gegenwertigen Ring, den diejenige hergeben, um welcher willen die Waare aufgenommen werden müssen, mit Bitt, E. Wol-Ehrwürden belieben damit vorlieb zu nehmen; versichere darneben, daß dieselbe im Übrigen auf alle Begebenheit einen dienstfertigen und getreuen Diener hat an dem, den dero Messner vor keinen Maler hält.

Explain the allusions contained in the underlined passages.

Mention the various names by which the hero of the story is called, and say when and by whom he first received them.

IV. Translate into idiomatic German either (a) or (b), and answer the questions appended to both.

(a) Dat is wol eyner bouen werd. | Sy gh dar van so seer vorverd? | Al hadde de Konnynt noch meer ghesworen | Unde al, de to syne rade horen, | Wan ick my sulven rad wyl gheuen, | Ic werde noch bouen se alle vorheuen: | Se mogen vele raden, we yd of sy; | Men dat hōuet en doch nicht ane my. | Latet dat men varen, leue neue, | Komet in vnde seed, wat ick yw gheue: | Eyn par dunen, hūnt vnde veth. | Ic en mach ock neene spys beth, | Wente se synt gud to vordanwen. | Men mach se slufen sūder kauen, | Vnde de knoofchen, smeken so soet, | Id is halff melck vnde halff bloet, | Wente ick ethe gherne lichte spys, | Myn wyff holt ock de suluen wys. | Komet in, se wert vns wol entfaen, | Men dyt enlatet er nicht vorstaen | Van der sake, dat holdet vorborgen. | Se is alto depe van sorgen, | Van kleiner sake valt se in vare, | Se is van herten alto sware.

Who is the "leue neue" addressed here, and what part does he play in the story?

(b) „Hei künmt!—Paßt up!—Hei is glit hir! | Hei höllt wohrhaftig süßwst de Kindelbir!“ | Un Allens stellt sich nu in Positur. |

Un æwer'n Barg künmt stramm un stur, | Schön rot un bläustrig  
 antausehn, | Den swarten Rock un den Tolor | Wat upgepußt't,  
 utwärts de Bein', | Demäudig fram un glatt dat Hor, | De Kunster-  
 galrath süßwt in eigene Person, | Den jüs de Lüd' för Ruhnhahn  
 schellen. | Linksch geht bi em de Gaus un ward vertellen | Von ehr  
 Verdeinst üm innere Mission | Un kickt denn af un an so fram tau  
 Höcht | Wat woll Hochwürden dortau seggt. | . . . De Kanter Hahn,  
 en Mann von Westerjohrung, | Seggt . . . | „Na denn man tau!  
 De Hauptsak bliwvt de Rohrung,“ | Un dreiht sich üm nah sin  
 Mariken; | Di folgt em mit sin sößtein Rücken: | „Du! Kopp hendal,  
 so as de Gaus! | De Lüften sælen porwis gahn | Un sæln de Ogen  
 nedder slahn, | Doch kam wi nahsten tau den Smauß | Denn passt  
 up minen Wink genau | Raup id Jug, denn langt düchtig tau.

Comparing the above passage with the preceding one, point out the different way in which the animal world is treated.

Point out the *principal* peculiarities in the dialect of the above two passages, especially as compared with High German and with English.

**V.** Answer *three* of the following questions, in which (1) and (5) must be included.

(1) Die Entstehungsgeschichte des Freundschaftsbundes zwischen Goethe und Schiller und die Bedeutung desselben für beide Dichter.

(2) Wie charakterisiert Herder den Gegensatz zwischen der volkstümlichen und der Kunstpoesie? Weisen Sie diesen Gegensatz an einigen Ihnen bekannten, deutschen Volksliedern nach.

(3) Welche Eigenschaften des Inhalts und der Form bezeichnen die "Räuber" als ein Jugendwerk Schiller's?

(4) Erläutern Sie den folgenden Ausspruch Goethes über seinen "Tasso": Die weiteren Hof- Lebens- und Liebesverhältnisse waren in Weimar wie in Ferrara, und ich kann mit Recht

von meiner Darstellung sagen, sie ist Bein von meinem Bein und Fleisch von meinem Fleisch.

(5) Der Charakter des Humors im "Armen Heinrich," bei Hans Sachs, im "Reineke de Vos," im "Simplicissimus," im "vergnügten Schulmeisterlein Maria Wuz" und in "Hanne Nüte.'

## SECOND PAPER.

TUESDAY, 3rd April 1900.—9 A.M. to 12 NOON.

### I. Translate into idiomatic German :—

(a) It was a lofty room of middling size, obscurely lighted by high narrow latticed windows. One end was entirely occupied by book-shelves, greatly too limited in space for the number of volumes placed upon them, which were, therefore, drawn up in ranks of two or three files deep, while numberless others littered the floor and the tables, amid a chaos of maps, engravings, scraps of parchment, bundles of papers, pieces of old armour, swords, dirks, helmets, and Highland targets. Behind Mr. Oldbuck's seat (which was an ancient leathern-covered easy-chair, worn smooth by constant use), was a huge oaken cabinet, decorated at each corner with Dutch cherubs, having their little duck-wings displayed, and great jolter-headed visages placed between them. The top of this cabinet was covered with busts, and Roman lamps and paterae, intermingled with one or two bronze figures . . . The rest of the apartment was panelled or wainscoted, with black oak, against which hung two or three portraits in armour, . . . and as many in tie-wigs and laced coats, staring representatives of his own ancestors.

W. SCOTT.

(b) 'How jolly I feel! I think that fellow has pocketed his guinea and cut his lucky.'—"If he has, I'll go, and I'll do it

myself.”—‘You would? Well, I’m hanged! I say, if you went to school, wouldn’t you get into rows! Perhaps he hasn’t found the place, where the box was stuck in. I think he funks it. I almost wish you hadn’t done it, upon my honour—eh? Look there! what was that? That looked like something.—I say! do you think we shall ever be found out?’—“I don’t think about it.”—‘Well, but suppose we *are* found out?’—“If we are, I must pay for it . . .” ‘I say, do you think they’ll ever suspect us?’—“What if they do? We must brunt it.”—‘Of course we will. But, I say, I wish you hadn’t given them the scent, though. I like to look innocent. I can’t when I know people suspect me. Lord! look there! Isn’t it just beginning to flare up.’

G. MEREDITH.

(c) . . . many a doleful vignette of the grim wintry streets at home returns to him (the invalid ordered south), and begins to haunt his memory. The hopeless huddled attitude of tramps in doorways; the flinching gait of barefoot children on the icy pavement; the sheen of the rainy streets towards afternoon; the meagre anatomy of the poor defined by the clinging of wet garments; the high canorous note of the North-easter on days when the very houses seem to stiffen with cold: these, and such as these, crowd back upon him, and mockingly substitute themselves for the fanciful winter scenes with which he had pleased himself a while before.

R. L. STEVENSON.

(d) <sup>1</sup> To shut the door in one’s face—with the naked eye—that is mere idle talk—honesty is the best policy—<sup>5</sup> to be in good humour—there is no hurry—leave that alone—in the open air—on one’s own account—<sup>10</sup> bolt upright—I told him point blank—he broached the subject—in a brown study—it comes to the same thing—<sup>15</sup> he is done for—that won’t do with me—you don’t say so!—he finds no fault with it—he could not find it in his heart to . . .—<sup>20</sup> to be hand and glove—help yourself (at table)—to keep one’s countenance—a man of the

true kidney—to lose sight of—<sup>25</sup> please let us have no ceremony—he was no match for me—he does not know his own mind—I am nonplussed—to kill two birds with one stone—<sup>30</sup> Do, make yourself at home.

II. Translate into idiomatic German :—

Wâ leit man ie sô grôze not als ich von bœsem trôste ?  
 ich was ze Krîde vil nâch tôt, wan daz mich got erlôste,  
 mich sluogen sturmwinde vil nâch ze einem steine  
 in einer naht geswinde : mîn fröide diu was kleine.  
 diu ruoder mir zerbrâchen ; nu merkent wie mir wære :  
 die segel sich zerzarten, si flugen ûf den sê.  
 die marnen alle jâhen daz si sô grôze swære  
 nie halbe naht gewonnen : mir tet ir schrien wê.  
 daz werte sicherlîchen unz an den sehsten taê ;  
 in mahte in niht entwîchen,  
 ich muose ez allez liden als der niht anders mac.  
 die welle und ouch die ûnde gênt mir grôz ungemüete ;  
 daz si für mîne sünde der reine got mîn hüete !  
 mîn wazzer daz ist trüebe, mîn piscot der ist herte,  
 mîn fleisch ist mir versalzen, mir schimelget mîn win.  
 der smac der von der sutten \* gât, der ist niht guot geverte :  
 dà für nêmen ich der rôsen smac, und mehte ez wol gesîn.  
 zisern unde bônen gênt mir niht hôhen muot :  
 wil der hôhste lônên,  
 so wirt daz trinken süeze und ouch diu spîse guot.

In the above some lines have been omitted ; say where and how many. Show how the stanza is divided into “Stollen” and “Abgesang.”

Give the 3rd person singular of “jâhen,” “gewonnen,” “flugen,” “gênt,” the 1st person plural of “was,” “leit,” “gât,” “tet,” “mac,” and the 2nd person singular of “zerbrâchen,” “sluogen.”

\* Bilge-water.

III. Translate *either* (a) *or* (b), and answer the questions appended to both passages:—

(a) Noh tô ne uuallôta nieman uber mere noh mit kesamenôtemo merze ne stadêta er ûz an unchundemo stade. Tô ne uuurten lût tiu zâligen uuîghorn, noh taz pluot, taz fone fientlichen uuundôn châme, daz ne blutegôta dia erda. Ziu solti fientscaft êrera uuerden, tanne sie sâhîn uuundâ unde neheinen lôn dero uuundôn? Uuolti got, eruuindên dise unseren zite hina ze dien altên siten, nube frechî ist nû inzundet, strede uualligôra danne daz fiur in Aethna. Ah ze sêre, uuer uuas ie daz ter êristo gruob ûzer erdo gold unde gimmâ, freisige tiuredâ, tie noh kerno inne lâgin, ube sie muosin.

Give English etymological equivalents or cognates of “unchundemo,” “tiuredâ,” “frechî,” and modern German equivalents of “gimma,” “uuîg(horn),” “kesamenôtemo,” “stade.”

Comment upon the formation of “stadêta,” “blutegôta.”

Parse “eruuindên,” “muosin,” “sêre.”

(b) denne der gesizzit, der dâr suonnen scal  
enti arteillan scal tôtên enti *quekkhên*,  
denne stêt dâr umpi engilo menigî,  
guotero *gomôno*: gart ist sô *mihhîl*:  
dara quimit ze deru rihtungu sô vilo dia dâr ar resti arstênt,  
sô dâr manno nohhein *uuîht* pimîdan ni mak.  
dâr scal denne hant sprehhan, houpit sagên,  
allero *lido* uuelih unzi in den *luziqun* vinger,  
uuaz er unter desên mannun mordis *kifrumita*.  
dâr ni ist eo sô listic man der dâr iouuiht arliugan megî  
daz er *kitarnan* megî tâto dehheina,  
niz al fora demo khuninge kichundit uuerde.

Give English and German etymological equivalents or cognates of the italicised words.

Parse “tôtên,” “tâto,” “megî.”



Comment upon "mordes" and show traces of the same construction in Modern German.

IV. Re-write the last *four* lines of the following in Middle High German :—

Ic wil emmer bliven staet  
 ende enwil haer niet entwenken.  
 Loont si mî met missedaet,  
 wee, wes sal ic dan ghedenken!  
 Neenâ, vrouwe Vênus, laet ontfermen dî  
 ende bid die lieve dat si trooste mî.  
 emmer dienen sonder loon, dats jâmerlic.  
 wêtti wie dat heeft ghedaen ? siet dat ben ic.

THIRD PAPER.

WEDNESDAY, 4th April 1900.—2 to 5 P.M.

I. Translate into idiomatic English :—

(a) Aber seltsam, wenn ich recht weit zurück gehe, so ist es eigentlich Trödel, der gar so tief wirkte, nicht Dinge, denen ich heute mein Augenmerk schenke. Da ist tief in dem Nebel der Kindheit zurück eine schwarze Weste, die so wundersam war; ich höre noch heute die Leute staunen und rufen, wie nun gar kein so unverwüßlicher Levantin mehr gemacht werde . . . dann trieb sich unter unsern Spielsachen eine dunkle, verwitterte Hutfeder herum, deren Rückgrat geknickt war — aus den Spänen und Splittern der Holzlaube blickte einmal eine geschundene Deichsel hervor — im Garten wucherte noch unausrottbar die Angelikawurzel; . . . dann waren zwei himmelblaue Wagenräder, die ich als Knabe einmal sauber abzuwaschen strebte, weil sie von darauf geworfenen Pflügen und Eggen voll Roth geworden waren; — dann bestand, weil man sagt, daß der Doctor ein vornehmes Fräulein soll geheirathet haben, auf Diele und Scheune noch allerlei den jetzigen Bewohnern unbekannter Kram, der wohl nicht alle von ihm herrühren mochte; aber wenn

unter die berechtigten Hausdinge etwas Wunderliches gerieth, das niemand erklügeln konnte, sagte man immer: „Das ist vom Doctor“; . . . Es mochte damals noch viel mehr Alterthümliches gegeben haben, wenn wir Kinder den Schauer vor so manchem unrichtigen Winkel hätten überwinden können, der noch bestand, und wohin sich seit Ewigkeit her der Schutt geflüchtet hatte. Da war zum Beispiele ein hölzerner dunkler Gang zwischen Schüttboden und Dach, in dem eine Menge urältester Sachen lag; aber schon einige Schritte tief in ihm stand auf einem großen Untersatze eine goldglänzende heilige Margaretha, die allemal einen so drohenden Schein gab, so oft wir hinein sahen; — dann waren die unentdeckten allerhintersten Räume der Wagenlaube, wo sich verworrene Stangen sträubten, alternde Strohbinde hauchten, noch bekannte Federn längst getödteter Hühner staken, tellergroße schwarze Augen aus den Naben alter Räder glockten, und daneben im Stroh manch tieferes Loch gohr, so schwarz wie ein Doctorhut. Ja die Schen steigerte sich, da einmal der Knecht gesagt hatte, daß man durch die Sachen hindurch in die Haberstelle der Schenne kriechen könne, was wohl bestaunt, aber nicht gewagt wurde. In der Finsterniß der Truhe bewahrte auch lieb Mütterlein manche Kostbarkeiten auf, die keinen andern Zweck hatten, als daß sie immer liegen blieben, und die wir gelegentlich zu sehen bekamen, wenn sie einmal etwas Seltenes suchen ging, und wir die Köpfe mit in die Truhe steckten. Da war eine Schnur angefaßter rasselnder silberner Gupfknöpfe, ein Bündel Schnallen, langstielige Löffel, eine große silberne Schale, von der sie sagten, daß der Doctor das Blut der vornehmen Leute in dieselbe gelassen habe, — dann waren zwei hornerne Adler schnäbel, einige Bündel von Goldborden, und anderes, was in der Dunkelheit so geheimnißvoll leuchtete, und worin wir nie kramen durften, weil die Mutter bei solchen Gelegenheiten stets nicht Zeit hatte, sondern zu sperren und fort gehen mußte.

- (b) Vieles hast du gethan, man soll es mit Liebe dir danken,  
Hast der äußeren Form streng wie kein Zweiter genügt,

Hast die inn're erkannt und alle Reizen der Sprache,  
Welche der Leichtsinn sprengt, wieder zusammen geschweift.  
Eines fehlt dir jedoch, die sanfte Wallung des Lebens,  
Die in ein reizendes Spiel gaukelnder Willkür den Ernst  
Des Gesetzes verwandelt und das im tiefsten Gebund'ne  
So weit löst, bis es scheint, daß es sich selbst nur gehorcht.  
Dennoch verschmilzt nur dies die äußere Form mit der inner'n,  
Und man erreicht es nur so, daß die Gebilde der Kunst  
Wirken wie die der Natur, und daß, wie Blumen und Bäume  
Keiner sich auch ein Gedicht anders noch denkt, als es ist.

(c) Nun steht sie drinnen in der Herenküche  
Und bläst mit ihres Odems falschem Hauche  
Die Kohlen an, daß von dem Zauberrauche  
Bis hieher mich umwittern die Gerüche.  
Aufsichtet sie geknickte Reisigbrüche  
Am Herde kreuzweis nach gelerntem Brauche  
Und murmelt über dem Wacholderstrauche,  
Der in der Lohe knistert, ihre Sprüche.  
Sie rasselt mit dem aufgehängten Kessel,  
Sie klappert mit den aufgespülten Schalen,  
Sie rührt mit raschem Querl für mich im Topfe;  
Sie rückt für mich im Kämmerchen den Sessel  
Und weiß die Stunde schon genau in Zahlen,  
Wo ich muß kommen und aus Thürchen klopfe.

## II. Give the idiomatic English for:—

<sup>1</sup> Er hat ihn hinter's Licht geführt—schlage es dir aus dem Sinne—er kam zu kurz dabei—er liess fünf gerade sein—<sup>5</sup> er war allen Sätteln gerecht—da hat man den Bock zum Gärtner gesetzt—das Buch war vergriffen—es läuft alles auf eins hinaus—er ging mich darum an—<sup>10</sup> sie war guter Dinge—das geht nicht mit rechten Dingen zu—er wollte es nicht wort haben—ich halte ihm das zu gute—damit hat es nichts auf sich—<sup>15</sup> wenn alle Stränge reissen—das giebt den Ausschlag—das ist nicht

mehr als billig—ihn sticht der Hafer—machen Sie sich darauf gefasst—<sup>20</sup> das schlägt in sein Fach—er hat sich die Hörner abgelaufen—von Haus aus—über die Stränge hauen—ich kann nicht dafür—<sup>25</sup> im handumdrehen—auf Knall und Fall—über Hals und Kopf—Sie werden bald in die Brüche kommen—mit der Thüre ins Haus fallen—<sup>30</sup> er hat bei mir einen Stein im Brette.

**III.** Answer the following questions:—

(a) Vergleichen Sie die dichterische Behandlung des Stoffes im 'Heliand' und im 'Christ.'

*Or,*

Weisen Sie an ihren Hauptwerken die charakteristischen Unterschiede nach, welche in bezug auf Lebensanschauung und Kunst zwischen Hartmann von Aue, Wolfram von Eschenbach und Gottfried von Strassburg bestehen.

(b) Man hat Lessing einen Reformator Deutschlands genannt. Begründen Sie diesen Titel. Worin zeigt sich Lessing im Vergleich mit seinen Nachfolgern als Mann der alten Schule?

*Or,*

Goethe bemerkt: "Durch Schillers alle Werke geht die Idee der Freiheit, und diese Idee nahm eine andere Gestalt an, sowie Schiller selbst in seiner Kultur weiter ging und selbst ein andrer wurde." Erläutern Sie kurz diesen Ausspruch an Schillers Werken in chronologischer Folge.

(c) Zeigen Sie an einigen prägnanten Beispielen, wodurch sich die Balladen Schillers von denjenigen Goethes unterscheiden.

*Or,*

Was ist spezifisch deutsch an Goethes 'Faust'?

**IV.** Answer any *two* of the following questions:—

(a) Was wissen Sie von dem Charakter der altgermanischen Kultur und der Geschichte der Einführung des Christentums bei den Germanen?

(b) Geben Sie eine kurze Darstellung des Verlaufs des dreissigjährigen Krieges und seiner Bedeutung in der deutschen Geschichte.

(c) Die Entwicklung des preussischen Staates seit der Thronbesteigung Friedrichs des Grossen.

(d) Welche geschichtlichen Ereignisse haben im Leben Goethes eine Rolle gespielt, und welche Stellung hat er ihnen gegenüber eingenommen?

V. Answer (a) *or* (b) and (c) *or* (d):—

(a) Comment upon the peculiarities of the following forms and phrases:—Weihnachten, vorhanden, selbst, anderthalb, dero Gnaden, Ew. Majestät, Kindes Kind, Schweizerkäse, heuer, einige zwanzig, mit was kann ich dienen? voller Schmerzen, Lügen strafen, 300 Mann, von Rechts wegen. Bürgemeister, Vater unser.

(b) Explain the difference of the vowels or consonants in the following words:—*spat*—*spät*, *sacht*—*sanft*, *stünde*—*stünde*, *Statt*—*Stätte*, *ward*—*wurde*, *Reiter*—*Ritter*, *Rappe*—*Rabe*, *lügen*—*leugnen*, *Schwager*—*Schwäher*, *Ziegel*—*Tiegel*, *hold*—*Huld*, *kiesen*—*küren*, *Hilfe*—*Hülfe*, *Trübsal*—*Wechsel*, *gebe*—*gibst*, *Rettich*—*Radieschen*.

(c) How do you explain that a number of archaic forms are preserved in a living language, and where would you naturally look for them?

(d) What do you know of the composition and development of the German word-stock?

#### FOURTH PAPER.

THURSDAY, 5th April 1900.—10.30 A.M. to 12 NOON.

#### ESSAY:

Die Sentimentalität in der deutschen Litteratur.

## (F)—HISTORY.

### BRITISH HISTORY.

#### FIRST PAPER.

TUESDAY, 3rd April 1900.—9 to 12 o'clock.

N.B.—*Not more than FOUR questions should be attempted in either section.*

#### SECTION I.

1. "But for the Danish and Norman Conquests the consolidation of England might have been indefinitely delayed." Discuss this statement.

2. Trace the political and ecclesiastical development of Scotland from the coming of St. Columba till the reign of Kenneth MacAlpin.

3. In what respects did the political and social organisation introduced by William I differ (1) from the feudalism of the Continent, and (2) from the system in England previous to the Norman Conquest?

4. Compare the importance in Scottish development of the reigns of Malcolm Canmore and David I.

5. Show how the continental relations of Henry II influenced the subsequent foreign policy of England.

6. How far is it possible to trace the causes of the Wars of the Roses back to the fourteenth century?

7. "With the reign of Henry VII the Middle Age ends and the Modern begins." Show the force of this statement under the heads of politics, studies, and religion.

8. Contrast the Reformation in England with the similar revolution in Scotland.

9. "It was not English arms but the English Constitution that conquered Ireland"—(Burke). Illustrate this remark from the history of Ireland till the death of Elizabeth.



SECTION II.

10. Trace the history of the principle of toleration in the seventeenth century till its expression in Locke.

11. Estimate the importance of the Revolution of 1688-9 in the history of English foreign policy.

12. Discuss the political influence of the press during the reign of Queen Anne.

13. The beginning of Cabinet Government has been ascribed to Sir Robert Walpole. What is implied in this?

14. "The parting between England and her American colonies was sure to come." What is the justification of this statement?

15. Describe "Grattan's Parliament" in connection with the legislative union that followed.

16. Show from the career of the younger Pitt that both of the great English parties may claim him.

17. Examine the influence of the great war with France upon the social and economic condition of England.

18. "To speak of Britain's foreign possession as colonies or as an Empire is misleading." What is implied in this remark?

SECOND PAPER.

TUESDAY, 3rd April 1900.—9 to 12 o'clock.

*N. B.*—Not more than FOUR questions should be attempted in each section.

SECTION I.

1. State accurately the points in dispute between King and Parliament at the following dates:—1610, 1621, 1629, 1642.

2. How far does the foreign policy of James I justify his claim to be a master of kingcraft?

3. Give some account of the territorial acquisitions of England during this period, stating the geographical position of each, and showing how it was acquired.

4. Illustrate from the events of 1638-39 the constitutional weakness of the Scottish estates.

5. Describe the social, ecclesiastical, and political condition of Scotland during Cromwell's Protectorate.

6. How far did the Restoration undo the results of the Great Rebellion?

7. Estimate the constitutional importance of (1) the debates on the Exclusion Bill; (2) the Trial of the Seven Bishops.

8. Explain the effect of James II's government upon the state and conduct of parties in Ireland.

## SECTION II.

9. Comment briefly on the following passages, explaining the context:—

(a) The law knows no such king-yoking policy. The law is of itself an old and trusty servant of the king's; it is his instrument which he useth to govern the people by. I never heard nor read that *lex* was *Rex*; but it is common and most true that *Rex* is *lex*, for he is *lex loquens*, a living, a speaking and acting law; and because the king is *lex loquens*, therefore it is said that *Rex censetur habere omnia jura in Scrinio pectoris sui*.

(b) Pour vous le faire entendre plus particulièrement, elle vous dit qu'elle est preste de confirmer pour trois ans le Gouvernement Presbytéral puisqu'il a esté pour ce temps estably par les deux maisons.

(c) The duty I owe to God in the preservation of the true liberty of my people will not suffer me at this time to be silent; for how can any free-born subject of England call life or any thing he possesseth his own, if power without right daily make new, and abrogate the old fundamental laws of the land, which I now take to be the present case?

(d) That the power of making war is only in the Lord Protector and the Parliament.

10. How far is it correct to say that the Petition of Right owes its importance rather to the circumstances under which it was adopted than to its actual contents?

11. Compare the general scope of the Nineteen Propositions with those of the so-called Treaty of Oxford, and account for the difference.

12. Comment on the statement that "it was not in consequence of its merits or demerits as a constitutional settlement that the Instrument of Government failed."

13. Compare the financial system under the Protectorate with that under Charles I, and show the importance of the changes which had been made.

14. Explain and illustrate Cromwell's doctrines and practice on the subject of "toleration."

ENGLAND, SCOTLAND, FRANCE, AND BURGUNDY,  
1415-1485.

FIRST PAPER.

MONDAY, 2nd April 1900.—9 to 12 o'clock.

N.B.—*Not more than FOUR questions to be attempted in either section.*

SECTION I.

1. What various causes may be assigned for the successes of Henry V in France?

2. Describe the policy of Scotland towards the Yorkist and Lancastrian factions.

3. What was the condition of parties and events in France at the period of the appearance of Jeanne Darc?

4. What were the main assertions of the "Pragmatic Sanction" of 1438? Compare the relations of France and England towards the Court of Rome.

5. "The good duke Humphrey." Account for the popularity of the Duke of Gloucester.

6. What was the origin of a Standing Army in France, and what was its effect on the future development of the country?

7. Relate the story of the Boyd ascendancy in Scotland, and show its historical significance.

## SECTION II.

8. What inferences may be drawn from the Paston Letters regarding the state of education, the domestic feelings, and the ethical standards of the period?

9. Relate the story of the eviction from Gresham Manor, and show its bearing on the time.

10. On what events and persons in Scottish history is light thrown by the Paston Letters?

11. From the *data* supplied by Sir John Fortescue compare England and France in respect (1) of the royal prerogative, and (2) of their social condition.

12. What is the substance of Fortescue's remarks on a "poor commons"?

13. Fortescue says that the King of Scots ruled *regimine politico et regali*. Explain this, and discuss its accuracy.

## SECOND PAPER.

MONDAY, 2nd April 1900.—2 to 5 o'clock.

*N.B.*—Not more than FOUR questions to be attempted in either section.

## SECTION I.

1. What light is thrown on the ethical standards of Philippe de Comines by his own career and by his estimate of the character of Louis XI?

2. Give the substance of Comines' remarks on archers as an

arm of war, on interviews of princes, on taxation, and the aims of the Constable St. Pol.

3. Describe the policy of Louis XI towards Burgundy after the death of Charles the Bold, and note the criticism which Comines passes upon it.

4. Translate the following passages, attaching explanatory notes:—

(a) La guerre entre deux grans princes est bien aysee à commencer, mais tres mal aysee à appaiser, pour les choses qui y adviennent, et qui en despendent. Car maintes dilligences se font, de chascun costé, pour grever son ennemy, qui si soubdainement ne se peuvent rappeler: comme il se veit par ces deux princes, qui avoient entrepris ceste veue si soubdain, sans advertir leurs gens qui estoient au loing; lesquelz de tous les deux costez, accomplissoient les charges que leurs maistres avoient baillees.

(b) Voicy la premiere male adventure et fortune que ce duc avoit jamais eue en toute sa vie. De toutes ses aultres entreprises, il en avoit eu l'honneur et le prouffit. Quel dommaige luy advint ce jour pour user de sa teste et mepriser conseil! Quel dommaige en a receu sa maison, et en quel estat en est elle encores, et en adventure d'estre d'icy à long temps!

(c) Tout ainsi comme en ce propre lieu de Nancy il avoit commis ce crime injustement, apres qu'il eut remis le second siege et faict mourir ledict Siffiron (lequel il ne voulut ouyr parler, comme homme qui avoit ja l'ouye bouchée et l'entendement troublé), fut en ceste propre place deceu et trahi par celluy auquel plus se fioit, et, par adventure, justement payé de sa desserte, pour le cas qu'il avoit commis dudict connestable et par avarice de ladicte ville de Nancy.

(d) Il me semble bon de dire que, apres que ledict Seigneur de Contay eut donné ceste cruelle sentence contre ces povres ostagiers (comme avez ouy), dont une partie d'eulx s'estoient

mis par vraye bonté, ung estant en ce conseil, me diet en l'oreille : "Veez vous bien ceste homme : combien qu'il soit bien vieil, si est il de sa personne bien sain ; mais je oseroye bien mettre grant chose qu'il me sera point vif d'luy en ung an : et le dis pour ceste terrible oppinion qu'il a dicte." Et ainsi en advint : car il ne vesquit gueres ; mais avant qu'il mourust, il servit bien son maistre pour ung jour en une bataille, dont je parlerai cy apres.

5. Give a short account of le parlement à Paris, la comté de Ferrette, les Ostrelins, les vieilles et nouvelles alliances, les villes assises sur la Somme, la maison d'Anjou.

## SECTION II.

6. Draw a sketch-map of Charles the Bold's territories at their greatest extent, distinguishing those which he inherited from those which he acquired during his own rule.

7. "Le plus sage pour soy tirer d'un mauvais pas." Illustrate this characteristic of Louis XI from the history of his reign.

8. Compare the earlier and later policy of Charles the Bold, and account for the change.

9. What were the relations of Edward IV to France and Burgundy ?

10. What was the policy of Louis XI to the Church ?

11. Compare France as Louis XI found it and left it, in respect (1) of its extent, and (2) of its constitution.

12. Describe the powers and functions of the States General of France, with special reference to the Assembly of 1584.



GREAT BRITAIN AND EUROPE, 1815–1878.

FIRST PAPER.

MONDAY, 2nd April 1900.—9 to 12 o'clock.

N.B.—*Not more than FOUR questions to be attempted in each section.*

SECTION I.

1. What terms were imposed upon France by the allies after the fall of Napoleon? Were they too harsh or too lenient?
2. How far is it true that the settlement of the Vienna Congress was “a negation of the idea of nationality”?
3. Trace the action of the Holy Alliance in European affairs. How and why was it brought to an end?
4. Give some account of the Belgian revolt in 1830, and examine the chief causes of its success.
5. Trace the influence of geographical conditions upon the history of the rising in Greece.
6. Show how the French Revolution of 1830 affected English opinion and politics.
7. Estimate the personal character of Charles Albert, and its influence upon the history of his kingdom.
8. Illustrate the influence of Metternich in German history between 1815 and 1848.

SECTION II.

9. How far was the Revolution of 1848 due to the foreign policy pursued under Louis Philippe?
10. Comment upon the following passages:—
  - (a) M. Barrot était le Lafayette de 1848.
  - (b) Le génie de la popularité éternelle donna asile à la popularité d'un jour.
  - (c) L'alliance russe c'est le cri de la nature : c'est la révélation des géographies.

(d) La démocratie française du reste ne peut accuser qu'elle-même de ces avortements des pensées du gouvernement provisoire sur l'Italie.

(e) Le poète qui avait brûlé tant d'encens sur les autels de la royauté fut au nombre des vaincus ; ce fut seulement pour mieux montrer en spectacle ce captif fameux, que la République le fit asseoir derrière elle sur le char de triomphe.

(f) "Me voilà donc plus grand de la tête qu' Alexandre et César."

11. Describe the financial difficulties of 1848 and the measures adopted to meet them by the provisional government.

12. Explain the phrases:—*les corrompus*, *le Fourierisme*, *les théories du Luxemburg*, *le corps des Montagnards*, *le club des Quinze-Vingts*.

13. Summarise the statements of Louis Blanc on the following subjects:—(1) The progress of the republican party before 1848 ; (2) the question between the tricolour and the *drapeau rouge* ; (3) the abolition of capital punishment ; (4) the comparison between the *Droit au Travail* and the Poor Law of Elizabeth.

14. "Ils portèrent seuls le poids des trois premiers mois de la sédition réprimée ou contenue partout. Ils firent un rempart de leurs bataillons au gouvernement le 16 Avril. Ils entourèrent l'Assemblée à son arrivée. Ils la reconquirent le 15 mai avec la garde nationale. Ils prodiguèrent leur sang pour elle le 23 juin. Ils rouvrirent à l'armée les portes de Paris et se glorifièrent de se subordonner à leurs aînés dans la famille des camps. Ils méritaient d'être adoptés par l'Assemblée nationale au lieu de subir le licenciement et l'oubli. Mais si le moment oublie, l'histoire se souvient. La page de la garde mobile sera écrite dans ses services et avec les gouttes de son sang." Translate this passage, and explain the various allusions.

SECOND PAPER.

MONDAY, 2nd April 1900.—2 to 5 P.M.

*N.B.—Not more than SEVEN questions to be attempted.*

1. Discuss the possibility of the creation of German unity by the Parliament of Frankfort, and show how the attempt failed.
2. What were the causes and the constitutional results of the War of the Sonderbund?
3. What causes may be assigned for the speedy downfall of the Second French Republic?
4. Estimate the merits of Lord Palmerston's foreign policy.
5. Compare the services rendered to Italian freedom by Garibaldi and Cavour respectively.
6. How far does subsequent history justify the opinion that the Crimean War was a blunder on the part of Great Britain?
7. Account for the early popularity, and later unpopularity, of Pius IX.
8. Trace carefully the policy pursued by Bismarck in the events leading up to the war with Austria in 1866.
9. Examine the motives, and estimate the results, of Napoleon III's intervention in Italy.
10. Estimate the political importance to Europe of the construction of the Suez Canal.
11. Discuss the question of responsibility for the outbreak of the Franco-Prussian War in 1870.
12. Compare the treaties of San Stefano and Berlin, and examine the significance of the differences between them.

I.—CONSTITUTIONAL HISTORY OF ENGLAND:

1066–1450.

FRIDAY, 30th March 1900.—9 to 12 o'clock.

- I. Write short Essays on *five* of the following subjects:—
- (1) Policy of William I. in State and Church.

- (2) History of the Charters (1100-1215).
- (3) Legislation of Henry II., in outline.
- (4) Constitutional Clauses of the Great Charter.
- (5) The place of Simon de Montfort in Constitutional History.
- (6) Edward I. (*a*) as a legislator, and (*b*) as an opponent of ecclesiastical encroachments.
- (7) Powers and privileges of the House of Commons: 1295-1376.
- (8) Statutes of (*a*) Labourers, (*b*) Provisors, (*c*) Treasons, (*d*) Praemunire (1349-53).
- (9) History of the Lords Appellant, in outline.
- (10) The Constitution as established in the reign of Henry IV.
- (11) The Election Statutes: 1406-45.
- (12) The Beauforts.

## II. Explain and discuss *four* of the following passages:—

(1) *Inquisitio Terrarum . . . quomodo vocatur mansio, quis tenuit eam tempore regis Eadwardi; quis modo tenet; quot hidæ; quot villani; quot servi; quot liberi homines; quot sochemanni.*

(2) *Swa swythe nearwelice he hitt lett ut aspyrian thaet naes an aelpig hide ne an gyrde landes, ne furthon . . . an oxe, ne an cu, ne an swin naes belyfon thaet naes gesaet on his gewrite.*

(3) *Vobis mandamus quod . . . apud Westmonasterium personaliter intersitis . . . ad tractandum, ordinandum et faciendum . . . Tibi praecipimus firmiter injungentes quod de comitatu praedicto duos milites et de qualibet civitate duos cives et de quolibet burgo duos burgenses eligi facias . . . ad faciendum . . .*

(4) *Illi autem profecti in terras suas noluerunt permittere ministros regis nec lanas, nec coria, nec extraordinarium quicquam, capere aut aliquid exigere ab invitis . . . et se ad resistendum praeparabant.*

(5) E ausi avoms grante pur nous e pur nos heirs . . . que mes pur nule busoigne tieu manere des aides, mises, ne prises de notre roiaume ne prendrons, fors que par commun assent de tut le roiaume.

## II.—CONSTITUTIONAL HISTORY OF ENGLAND: 1688–1707.

FRIDAY, 30th March 1900.—2 to 5 P.M.

1. Explain and discuss *five* of the following subjects:—

- (1) Downfall of the Stuart Dynasty.
- (2) Chief Reforms of the Revolution (1689-1701).
- (3) Growth of Religious Toleration.
- (4) Beginnings of Cabinet Government.
- (5) Character and policy of William III.
- (6) Constitutional importance of the (a) Mutiny Act; (b) Triennial Act; and (c) Act regulating trials for treason.
- (7) Aylesbury Election case.
- (8) The Union of England and Scotland.
- (9) (a) Placemen in Parliament; (b) Independence of Judges; and (c) Liberty of the Press.

2. Explain *three* of the following passages:—

(1) (a) I abhor the doctrine that Princes excommunicated by the Pope may be deprived or murdered by their subjects; (b) No dispensation by *non obstante* of or to any statute shall be allowed.

(2) (a) That judges' commissions be made *quamdiu se bene gesserint*, and their salaries ascertained and established; (b) that no pardon under the Great Seal be pleadable to an impeachment by the Commons.

(3) Les gens qui ont du bien ne rappelleront jamais le prince des Galles. Il n'y a que les Catholiques et les pauvres qui

veulent faire fortune qui sont pour luy. Je trouve autant d'honnêtes gens parmy les torés qu'autre part. (1703.)

(4) La Révolution inaugure définitivement le régime parlementaire. La royauté est plus que jamais limitée dans sa prérogative. L'habile prince d'Orange s'attacha à user l'un contre l'autre les deux grands partis. . . . La reine Anne ne parvint à exercer aucune influence sur le Parlement.

### III.—EUROPEAN CONSTITUTIONS.

SATURDAY, 31st March 1900.—9 to 12 o'clock.

1. Sketch the constitutional history of *two* of—(a) France, (b) Switzerland, (c) Hungary, (d) the German Empire.

2. Describe the polity of *two* of—(a) France, (b) Switzerland, (c) Prussia, (d) Austria-Hungary.

3. Discuss *two* of:—

(a) Theories of Sovereignty, with illustrations.

(b) Constitutions, how classed and defined.

(c) Party government.

(d) "In several highly civilised countries parliamentary government is a failure."

4. Explain and criticise *two* of the following passages:—

(a) Nous serons obligés de tenir une assemblée solennelle tous les ans. . . . Nous ne saisirons ni ne livrerons au châtiement aucun des nobles s'ils n'ont été d'abord cités et convaincus dans les formes judiciaires. . . . Nous ne lèverons aucun impôt sur les fonds des nobles. . . . aucun impôt sur les gens d'église (1225).

(b) Les affaires étrangères, les affaires militaires et les finances . . . sont communes aux royaumes et pays représentés au Reichsrath et aux pays de la couronne de Hongrie. . . . en outre les affaires commerciales, spécialement la législation douanière, le système monétaire, les dispositions concernant



les chemins de fer et le système défensif du pays, doivent être traités par voie d'entente commune.

(c) Tous les Prussiens sont égaux devant la loi. La liberté individuelle est garantie. Le domicile est inviolable. Tout Prussien a le droit de manifester sa pensée librement. La censure ne peut être établie. Tous les Prussiens ont le droit de former des associations. La juridiction militaire s'applique exclusivement aux infractions à la discipline.

(d) L'assemblée fédérale se compose de deux sections ou conseils, le conseil national et le conseil des états. . . . L'autorité exécutive est exercée par un conseil fédéral composé de sept membres. . . . Les lois fédérales sont soumises à l'adoption ou au rejet du peuple, si la demande en est fait par 30,000 citoyens actifs ou par huit cantons. . . . L'initiative populaire consiste en une demande présentée par 50,000 citoyens. . . . La constitution révisée sera soumise à l'adoption ou au rejet du peuple et des cantons.

#### IV.—HISTORY OF CIVIL AND RELIGIOUS LIBERTY, 1384-1563.

SATURDAY, 31st March 1900.—2 to 5 P.M.

##### 1. Discuss five of:—

- (1) Wycliffe's place in ecclesiastical and in political history.
- (2) The crusade against Wycliffism (1382-1414).
- (3) Wycliffism in Bohemia.
- (4) Reformation doctrines in England and Scotland (1414-1515).
- (5) Position of the *Ecclesia Anglicana* in the 15th century.
- (6) Social and political conditions in England in the 15th century.
- (7) History of Benefit of Clergy (to 1515).

(8) Colet, Erasmus, and More.

(9) True causes of the Reformation in England.

(10) Effect of the Reformation on political thought.

**2. Explain three of:—**

(1) Scripsit pape Linconiensis volenti proficere unum indoneum in sua diocesi, "obedienter resisto et contradicendo obedio."

(2) Rex nec debet inordinate appropriare sibi terras sue milicie, nec transferre, vel permittere transferri, perpetuo ad manum mortuam hereditatem vel redditus brachii secularis.

(3) Et patet quod domini temporales possunt auferre temporalia ab ecclesia delinquente. Si ista potestas deesset . . . destrueretur ius canonicum, ius civile et pax ecclesie militantis.

(4) A vernicle hadde he sowed upon his cappe.

His walet lay byforn him in his lappe,

Bretful of pardoun come from Rome all hoot . . .

He seide he hadde a gobet of the seyl

That seynt Peter hadde, when that he wente

Uppon the see, til Jhesu Crist him hente.

He had a croys of latoun ful of stones,

And in a glas he hadde pigges bones.

(5) Persones and parisch prestes · pleynded hem to the bischop

That here parishes were pore · sith the pestilence tyme,

To haue a lycence and a leue · at London to dwell,

And synge there for symonye · for siluer is swete . . .

Some seruen the kyng · and his siluer tellen

In cheker and in chancerye · chalengen his dettes

Of wardes and wardmotes · weyues and streyues.

## Papers for Degrees in Science.

### FIRST SCIENCE EXAMINATION.

#### Pure Science.

[For Papers in Mathematics and Natural Philosophy, see Papers in these Subjects for the Degree of M.A. ; and for Papers in Chemistry, see Papers for First Professional Examination for Degrees in Medicine.]

#### BOTANY.

TUESDAY, 27th March 1900.—10 to 12 o'clock.

1. Give an account of the normal process of fertilisation in an Angiosperm. How does chalazogamy differ from the normal? Give an account of it.
2. Write an account of the life-history of Marchantia.
3. What are the characters by which the Filicineae, the Equisetineae, and the Lycopodineae are distinguished?
4. Describe the phenomena of Carbon-Assimilation in plants.
5. What are the grounds for regarding the Orchideae as the highest members of the Monocotyledones? Give an account of the flower-structure in this family.

#### PRACTICAL BOTANY.

WEDNESDAY, 28th March 1900.—1 to 4 P.M.

1. Make one transverse section of specimen *A*. Sketch and describe it, naming its parts.
2. Sketch, describe, and identify specimens *B*, *C*, *D*.
3. By means of the Flora provided, identify specimen *E*.
4. Refer specimens *F*, *G*, to their Natural Orders.
5. Sketch, compare, and identify specimens *H*, *I*.

## ZOOLOGY.

TUESDAY, 18th July 1899.—10 to 12 o'clock.

1. Point out how the eye and the auditory organ in a fish essentially differ in structure and development.

2. Classify, with reasons, the following animals, and state in what parts of the world they are to be found:—Ornithorhynchus, Ostriches, Hatteria (Sphenodon), Tapir, Macropus, Orang, Elephants, Crocodiles, Cryptoprocta, and Manis (Pangolin).

3. Write an account, illustrated by examples, of Warning Colouration, Special Protective Resemblance, and Courtship Colouration.

4. Describe the reproductive system in a male Skate, and indicate the origin of the *vas deferens* and epididymis.

5. Explain and illustrate the following terms:—Medusa, homology, analogy, environment, hybrid, recapitulation, hectocotylus.

## Engineering.

## MATHEMATICS.

## FIRST PAPER.

FRIDAY, 13th October 1899.—11.30 A.M. to 1.30 P.M.

1. Find the area of the surface cut off from a sphere by two parallel planes.

A conical glass one decimètre in height has a mouth 7 centimètres in diameter. It is filled with water and then a glass sphere of 7 centimètres radius is put into the glass. Find to 3 significant figures how much water is left in the glass.

2. A circular park, a mile in diameter, is approached by two roads from a point 4 miles from its centre. The roads touch, but do not cut into, the park, and a cross road joins their points

of contingency with the park. Calculate the amount of area cut off the park by the cross road.

3. A pile of cylinders, each 8 inches long, packed as closely as possible, has its base made up of two rows of 10 each placed side by side. There are 5 layers of cylinders, and the total height is 18 inches. Find the mass of the pile if their specific gravity is 8.

4. A plate is bounded by one straight line and one curved line which is symmetrical about the perpendicular bisector of the straight line. With the straight line and the perpendicular as axes of  $x$  and  $y$  respectively  $(0, 12)$ ,  $(2, 8)$ ,  $(3, 6)$ ,  $(4, 7)$ ,  $(7, 5)$ ,  $(10, 0)$  are points on the curve, those in italics being points of inflexion. Find the area of the whole plate by any method except by regarding the curved line as made up of straight lines.

5. If in a triangle  $A=48^{\circ}31'22''$ ,  $a=188.3673$ ,  $b=207.4378$ , find the third side of the triangle.

6. Trace the curve  $y = \frac{6x^3 - 15x^2 + 4x - 10}{(x^2 - 6x + 4)^2}$ .

Give a graphical solution of  $x = \tan x$ .

7. If one of the roots of an equation can be expressed as a rational function of another, how would you endeavour to find both?

The equation

$$2x^4 + x^3 + 2x^2 - 5x + 6 = 0$$

is such that the product of two of the roots is unity. Find all the roots.

8. Shew that the equation to a straight line may be represented in the form

$$\frac{x-x_1}{\cos \theta} = \frac{y-y_1}{\sin \theta},$$

and interpret the constants in this equation.

$P$  is a fixed point through which a line  $PQRS$  is drawn

cutting the  $x$ -axis in  $Q$  and the  $y$ -axis in  $R$ , while  $QS=QR$ . Find the locus of  $S$  as the line rotates round  $P$ .

9. Shew that the equation  $ax^2+2hxy+by^2=0$  represents two straight lines through the origin, and find the equation to the two lines bisecting the angle between them.

Find the equation to the two lines through  $(1, 1)$  inclined at an angle of forty-five degrees to the lines represented by the equation  $2x^2-9xy+6y^2=0$ .

10. Find the equation of the polar of a point with reference to an ellipse.

Prove that the perpendicular from  $A$  on the polar of  $B$  is to the perpendicular from  $B$  on the polar of  $A$  in the ratio of the perpendiculars on the polars from the centre.

## SECOND PAPER.

FRIDAY, 13th October 1899.—2.30 to 5.30 P.M.

1. Find the mass of matter of specific gravity 9 in the solid swept out by the space between two coplanar concentric circles of radius 4 cm. and 6 cm., as their centre moves along a semi-circle of radius 12 cm.

2. Shew analytically that the locus of the middle points of a series of parallel chords of a conic is a straight line.

The focus of an ellipse of eccentricity  $\frac{1}{2}$  is at the point  $(1, 1)$ , and its directrix is the line  $y-x=3$ . Find the co-ordinates of its centre.

3. Find directly the differential co-efficient of  $\sin x$  with respect to  $x$ .

Differentiate  $(\sin x)^{(\sin x)\sin x}$ .

If  $y=3x+2x^3-x^5$  find the value of  $\frac{d^2x}{dy^2}$ .

4. Prove the theorem of Leibnitz for determining the  $m^{\text{th}}$  differential co-efficient of the product of two functions of  $x$ .



Find the  $(2n)^{\text{th}}$  differential co-efficient of  $(1+x+x^2)^2 \sin x$ .

If  $u = 1/\sqrt{x^2+y^2+z^2}$ , prove

$$\frac{\delta^2 u}{\delta x^2} + \frac{\delta^2 u}{\delta y^2} + \frac{\delta^2 u}{\delta z^2} = 0.$$

5. Determine an expression for the radius of curvature of a curve whose equation in Cartesian co-ordinates is given.

Find the co-ordinates of the point in the parabola  $x^2 = 4ay$  for which the radius of curvature is equal to the latus rectum.

6. Shew geometrically that if  $\theta$  denote the circular measure of an angle, then  $\int_{\theta=0}^{\theta} \frac{\sin \theta}{\theta} = 1$ .

Use the tables to find the number of decimal places to which this formula is true for an angle equal to a degree.

Find  $\int_{\theta=0}^{\theta} \frac{\sin \theta - \sin^{-1} \theta}{\theta^3}.$

7. Prove the rule known as Integration by Parts. Integrate the following functions:—

(i)  $\sin x$ ;      (ii)  $\tan^3 x$ ;      (iii)  $x^2 \cos x$ .

8. Investigate a formula in polar co-ordinates suitable for the integration of an area.

$O$  is a fixed point,  $P$  any other point, on the circumference of a circle of radius  $r$ .  $OP$  is cut in  $Q$  so that  $PQ$  is equal to a constant,  $c$ . Find the area of the loop lying within the circle formed by the locus of  $Q$  as  $P$  takes up all possible positions on the circumference.

9. Find the numerical equivalent of the determinant

$$\begin{vmatrix} 1 & 2 & 4 & 3 \\ 4 & 0 & 5 & 0 \\ 4 & 3 & 6 & 2 \\ 7 & 5 & 7 & 6 \end{vmatrix}$$

Represent as a product of factors

$$\begin{vmatrix} a+b & b+c & c+a \\ a^3+b^3 & b^3+c^3 & c^3+a^3 \\ a^2+b^2 & b^2+c^2 & c^2+a^2 \end{vmatrix}$$

10. A circular plate of radius 60 cm. has an elliptic disc of semi-axes 10 cm. and 7 cm. and of double its thickness placed on it with the minor axis along a radius and the centre at a distance of 30 cm. from its centre. Find the centroid of the two and their radius of gyration about a line through the centroid perpendicular to the plate.

11. A hemisphere, of radius  $a$  and uniform density, has its plane face placed in contact with one end of a cylinder, of radius  $b$  and length  $c$ , so that the centres of the two faces coincide. If the density at any point of the cylinder vary as the distance from the free end, and that of the hemisphere be the same as that of the end of the cylinder with which it is in contact, find the radii of gyration about lines in and perpendicular to the plane of contact but through the common centre.

12. Integrate  $\frac{d^2x}{dt^2} + ax = b$ .

Distinguish the various cases and show how the arbitrary constants will usually be determined.

## Public Health.

### LABORATORY WORK.

MONDAY, 26th March 1900.—10 to 12 o'clock.

1. Describe the microscopical appearance and cultural characters of the *Bacillus of Plague*. State how it may be distinguished from other pathogenic organisms which may be mistaken for it.

2. Describe a method for the complete analysis of milk. What, in your opinion, should be the standard of fat in milk?

### 3. VOLIMETRIC ANALYSIS.

What is meant by the following terms?—

(a) A Standard Solution. (b) A Normal Solution.

How is a decinormal solution of Sulphuric Acid prepared ? State in detail the method of determining the strength of such a solution *gravimetrically*.

## PRACTICAL WORK.

*The following are examples of what have been given at the Examinations:—*

*(This part of the Examination lasts four days.)*

1. Determination of Albumen Fat and sugar in a sample of milk.

2. To separate and recognise by culture, staining, etc., the Bacillus of Typhoid Fever from a mixed culture containing this Bacillus.

3. Analysis of, and report on, a sample of potable water.

Each Candidate must recognise Bacteriological Cultures by means of Cultivation, Staining, and Microscopical Examination.

## PHYSICS.

MONDAY, 26th March 1900.—1 to 3 P.M.

*(Only SIX questions to be attempted.)*

1. Give a description of the principal tidal phenomena, showing in particular how spring and neap tides are caused. Why does the highest spring tide occur always about the same hour at a given locality ?

2. Mention some important climatic consequences of the high specific heat and high latent heats of water substance.

3. State the relation connecting the volume, pressure, and temperature of atmospheric air.

A diving-bell, originally full of air at 70° Fahr., is lowered till the water surface within the bell is 4 fathoms below the level of the free water surface. The barometric pressure being

equivalent to a water column 33 feet high, and the temperature of the water being  $55^{\circ}$  Fahr., find the fraction of its original volume to which the mass of air contained in the bell is ultimately reduced.

4. On what does the rate of efflux of water through a small orifice in the wall of a tank full of water depend? If a long thin tube is fitted to the orifice how is the rate of efflux affected? Is it of importance how long the tube is and how narrow the bore?

5. Give a general account of the manner in which energy in wave-motion is transmitted from part to part of a disturbed medium, referring for the sake of definiteness to some one particular case.

6. Show how to measure the dew-point and the humidity, relative and absolute, of the air.

On what conditions does the formation of fog and mist depend?

7. What is physically meant by loudness, quality, and resonance in sound?

Describe carefully the effect of a sounding-board in a musical instrument, and in particular discuss the transformations of energy involved.

8. Give the laws of electrolysis. State precisely how and where the energy of the battery employed is used up. Is there any limitation to the power of the battery, and if so, why?

9. What are the laws of induction of electric currents? Show how, in one or two simple cases, the principles of energy enable us to deduce the direction of the induced current, that of the inducing current being given.

Give the essential principles of the construction of a dynamo.

10. State the fundamental facts of induction in electrostatics.

Describe any kind of condenser, explain its working, and give a reason for its being so called.

## GEOLOGY.

TUESDAY, 28th March 1899.—1 to 3 o'clock.

1. Mention some of the various ways in which Limestone has been formed.
2. Define the following terms—Escarpment, Intrusive Sheet or Sill, Neck, Reversed Fault, Slaty cleavage, and Overlap.
3. What are Geysers?
4. In selecting a site for a Sewage-field, what are the principal geological considerations to be kept in view, in order to avoid the possible pollution of wells, etc.
5. Draw *one* section to show the following structures—Horizontal Strata, Anticline and Syncline, Unconformity, and Normal Fault.

## FINAL SCIENCE EXAMINATION.

### Pure Science.

#### MATHEMATICS.

#### NATURAL PHILOSOPHY.

The papers in Mathematics and Natural Philosophy are the same as for the Degree of M.A. with Honours in Mathematics and Natural Philosophy.

#### CHEMISTRY.—FIRST PAPER.

MONDAY, 17th July 1899.—9 to 12 o'clock.

*Six questions only to be attempted.*

1. What are the more important oxidising and reducing agents? Give examples showing how these agents are employed.
2. Give a short sketch of the oxygen acids derived from

chlorine, and compare them with the oxygen acids derived from bromine and from iodine.

3. How is borax manufactured? State how you would prepare the following compounds of boron: (*a*) Boric acid, (*b*) Boric anhydride, (*c*) Boron nitride, (*d*) Boron fluoride, (*e*) Boron chloride.

4. Give the constitutional formulae for Acetone, Ethyl alcohol, Ethylene, and Acetic acid, and state clearly your reasons for adopting such formulae.

5. How may the following substitutions be effected in organic substances: (*a*) Cl for OH, (*b*) OH for Cl, (*c*) OH for  $\text{NH}_2$ , (*d*)  $\text{NH}_2$  for OH, (*e*)  $\text{COOH}$  for H.

6. How is oxalic acid manufactured? Give an account of the properties of this acid, and explain how it is employed in the preparation of formic acid, allyl alcohol, and carbonic oxide.

7. When and by whom were the following substances discovered? What was the method employed in each case?—

Chlorine—Oxygen—Phosgene—Benzene—Argon.

(A short statement only is required.)

8. Describe the process for the determination of Magnesium as Pyrophosphate, and explain fully the reasons for the procedure commonly adopted.

## SECOND PAPER.

MONDAY, 17th July 1899.—1 to 3 o'clock.

FIVE Questions only, which must include 1, 2 and 3, to be attempted.

1. Give an account of the various methods which have from time to time been employed in the manufacture of aluminium, and compare and contrast the properties of this metal and its compounds with those of zinc and chromium and their compounds.



2. What do you understand by the term "strength" as applied to acids or to bases, and how may this be measured?

3. Give a short account of the more important recent work which has been done in connection with any one of the following:—(a) Pinene, (b) Atropine, (c) Morphine, (d) Piperine, (e) Uric acid.

4. What is "Osmotic pressure"? How is Osmotic pressure related to the lowering of the freezing-point, and to the raising of the boiling-point of a solvent caused by the presence of a solute?

5. Write a short account of the chief advances in Chemistry that are due to the investigations of any one of the following chemists:—Cavendish, Dumas, Williamson, Pasteur, Stas.

6. What stereo-isomeric modifications of the different hexahydro-phthalic acids are theoretically possible? Have these, or any of them, actually been obtained?

7. What are the principal copper minerals? Give their chemical composition and describe their general crystallographic character.

8. Describe the characteristic symmetry of each of the three classes in the rhombic system. Give an example in each class. What are the outstanding optical properties of rhombic crystals?

## HUMAN ANATOMY AND ANTHROPOLOGY.

### FIRST PAPER.

WEDNESDAY, 19th July 1899.—9 to 12 o'clock.

1. Write an anatomical description of a long bone, *e.g.* the Humerus.

2. On what characters would you rely in determining the age of a skull? To which of these would you attach the greatest value?

3. Trace the development of the anterior cerebral vesicle from its primitive condition to the formation of the convoluted surface of the cerebral hemispheres.

4. Arrange the muscles of the upper arm and thigh in accordance with their actions. State the nerve supply of each muscle, or group of muscles.

## SECOND PAPER.

WEDNESDAY, 19th July 1899.—1 to 3 o'clock.

1. Contrast the structure of the hand and foot in regard to the use of the former as a prehensile instrument, and of the latter as the base of a column of support.

2. Point out the sexual characters of the pelvis in a man and a woman. How would you determine the index of the pelvic brim? Classify the male pelvis in relation to differences in this index.

3. The Human Hair. Give the differences in colour and character, and classify races in accordance with these differences.

4. The Nose. Show how it differs in the skull and in the living person. State the methods of obtaining in each case a nasal index. Classify the nose in different races in relation to differences in the nasal index.

## PHYSIOLOGY.—Two hours.

March 1900.

*Candidates on the Higher Standard take the paper for the Second Examination in Medicine, and the following four questions. Candidates on the Lower Standard take the Second Professional Paper and the first two questions only.*

1. Describe the act of swallowing, stating the nervous mechanisms through which the various muscular movements

are called into play. By what means have the tissue relationships of swallowing been elucidated?

2. What are the most important phosphorus compounds that occur in the body? Give an account of their chemical composition, of the compounds they form, and of the products by which they are represented in the excreta.

3. Discuss the question whether the rhythmical action of the heart is due to a property of the cardiac muscular tissue or to included nerve-elements. Give a description of experiments bearing on this question, and point out analogies which are met with in other contractile structures.

4. What important advances have been made in our knowledge of the nervous system by the employment of the methods of Golgi? Describe exactly what happens in the severed fibre and the cell-body when the axis-cylinder process of a nerve-cell is cut.

## GEOLOGY (INCLUDING MINERALOGY AND PALEONTOLOGY).

### FIRST PAPER.

TUESDAY, 18th July 1899.—9 to 12 o'clock.

*(Six Questions only to be attempted.)*

1. Describe the changes induced by the chemical action of rain on Orthoclase, Calcite, Olivine, and Hornblende.

2. What is supposed to be the mechanism of Geysers?

3. Describe the nature of the alteration produced in Greywackes and Shales or Slates by the intrusion of Granite.

4. Give a particular account of the essential and more common accessory minerals met with in Syenite, Gabbro, and Picrite.

5. What formations in the Mesozoic Group are considered to be of estuarine or freshwater origin? Give reasons for so assigning them.

6. Describe an Ammonite. Give the geological range of the Ammonitidæ.

7. On what evidence is it inferred that Tundra- and Steppe-conditions of climate have prevailed in Middle Europe during pre-historic times?

8. Draw a geological section across any region with which you are acquainted.

9. In what various ways are the Ores in Lodes or Veins considered to have been introduced?

10. Describe three genera of fossils which are of common occurrence in the Carboniferous rocks.

#### SECOND PAPER.

TUESDAY, 18th July 1899.—1 to 3 o'clock.

1. What are the principal Felspars of the igneous rocks? Describe their appearance in rock sections, and state carefully how you would proceed to distinguish between them, (*a*) by their extinctions, (*b*) by their specific gravity.

2. Define the group Diorite, and describe the principal types which it includes.

3. Distinguish between shale, slate, and phyllite; and describe the changes induced in them by thermal metamorphism.

4. What are the distinctive features of the following rocks with reference especially to British examples:—Norsean Phonolite, Enstatite Peridotite, Glaucophane Schist, Minette.

#### ZOOLOGY.

FRIDAY, 13th October 1899.—9 to 12 o'clock.

*Only FIVE questions to be attempted.*

1. Describe as fully as you can the structure, physiology, and

development of a simple Sponge, and give reasons for and against classifying sponges as a group distinct from the Cœlenterata.

2. Explain why many Gasteropods are spirally coiled, and point out the anatomical results of the twisting that has taken place. Illustrate by reference to any forms known to you.

3. Give some account of the nature of the food of segmented worms (*Annelida*), and of the means by which they secure it.

4. Write a brief account of any *three* of the following:—*Volvox*, *Millepora*, *Polygordius*, *Ascaris*, *Nebalia*, *Plumatella*, *Sipunculus*.

5. Compare and contrast the appendages and respiratory organs of a Centipede, a Scorpion, an Insect, a King-Crab, and Peripatus.

6. What are the following larval forms, and of what groups are they characteristic:—*trochosphere*, *bipinnaria*, *pilidium*, *nauplius*, *zoœa*, *veliger*?

## BOTANY.

### FIRST PAPER.

MONDAY, 26th March 1900.—9 to 12 o'clock.

1. Write an account of the features exhibited by Hygrophytes, and show how the several characteristics you describe are adapted to the conditions of life of the plant to which they belong.

2. State what you know of the phylogenetic history of the families of Dicotyledones.

3. Compare the Musci with the Hepaticæ.

4. Give an account of the phenomena of movement exhibited by plants.

### SECOND PAPER.

MONDAY, 26th March 1900.—1 to 3 o'clock.

1. Discuss the assimilation of nitrogen by plants.

2. Contrast the sporophyte and gametophyte of *Selaginella* with those of *Pinus*.

3. Show by various examples derived from the *Spermaphyta* how parasitism affects host and parasite.

4. Give a detailed account of the characteristics of the chief British genera in the *Rosaceae*.

## PRACTICAL BOTANY.

WEDNESDAY, 28th March 1900.

9 to 12 o'clock.

1. Write an illustrated organographical account of the specimen provided. Make illustrative microscopical preparations, sketch them and leave them for inspection.

1 to 4 o'clock.

2. Sketch, identify, and describe the specimens *B*, *C*, *D*, *E*.

3. Identify by means of the flora provided, specimens *F*, *G*.

4. Refer the specimens *H* and *I* to their Natural Orders.

5. Sketch, identify, and describe specimens *K*, *L*, *M*, *N*.

## Engineering.

### ENGINEERING.

MONDAY, 2nd April 1900.—9 to 11 o'clock.

1. Explain how the theodolite is used in surveying, describing the various adjustments required to plant it over a given point and to take a reading correctly, and how are the various readings checked when a circuit is completed?

2. Sketch sections of masonry and earthwork embankments to contain water 60 feet deep, and describe the provisions which should be made for drawing off the water and for passing off the overflow water.



3. What are the advantages of hydraulic machinery as compared with steam machinery, and how is the pressure for the hydraulic machinery obtained, maintained, and used.

4. Sketch the details of the rails at a double line junction, showing the arrangement of the points and crossings, and calculate the distance of all the crossings from the points if one double line is straight and the other is in a curve of 10 chains radius.

5. Sketch a design for a steel parallel girder 40 feet span to carry 40 tons distributed over it, and find its approximate weight.

MONDAY, 2nd April 1900.—3 to 5 o'clock.

1. What are the usual angles of the slopes of Railway cuttings and embankments, and assuming the slopes to be  $h$  horizontal to  $v$  vertical, and  $b$  the breadth of formation, how many cubic yards will there be in a bank half a mile long, 60 feet deep in the middle, 30 feet deep at one end, and running out to 0 feet deep at the other end?

2. Make sketch drawings of a Dock to hold vessels drawing 30 feet of water, showing an entrance 50 feet wide, with gates, sections of the walls, and the provision for mooring vessels. Show also, generally, the arrangement of the chains for opening and closing the gates.

3. Sketch a filter and clear water cistern for a town of 10,000 inhabitants, giving reasons for adopting particular sizes, and show the general arrangements of the necessary pipes.

4. Describe, with sketches, the method of proceeding in the construction of a Tunnel through soft material.

5. For what special purposes should the following timbers be used in buildings, and give reasons:—oak, red pine, yellow pine, white pine, pitch pine?

TUESDAY, 3rd April 1900.—9 to 11 o'clock.

1. State and discuss Wöhler's Law as regards the effect of variable stress on structural materials.

An iron bar, whose cross section is 3 sq. in., forms part of the bracing of a girder, and is subject to stresses which fluctuate between a pull of 14 tons and a thrust of 6 tons. Assign the statical strength of the material.

2. State and criticise Rankine's Theory of earthwork pressure on retaining-walls.

A masonry wall is 20 ft. high and 6 ft. thick. On one side of it, earth is retained level with the top, and on the other, the earth, resting at its natural slope of  $45^\circ$ s is 15 ft. high. A cube foot of the masonry weighs 130 lbs., and of the earth 120 lbs. Will the wall be stable or not?

3. What is meant by the change of entropy of a substance?

Show that the area of the entropy-temperature diagram represents the work done in thermal units.

Sketch the entropy-temperature diagram for a pound of water substance used in an engine working without compression, but with complete adiabatic expansion, and show how this becomes modified when drawn for an actual steam engine.

4. What is understood by the term vortex? State the conditions which differentiate a *free* and a *forced* vortex, and give an expression for the dynamic head in each case.

A cylindrical vessel, 2 ft. diameter and 6 in. deep, is rotated about its axis, which is vertical. The vessel is filled with water which, when at rest, is 4 in. deep, and it also has a close-fitting cover.

Determine the speed of rotation so that the vortex formed shall just touch the bottom of the vessel, and find also the total pressure on its side and ends.

5. Discuss the nature and effect of friction in water-pipes.

A C.I. pipe, 6 in. internal diameter and 2 miles long,

branches, at its far end, which is 100 feet below the surface of the water in the reservoir from which it runs, into two pipes, each 3 in. in diameter. One of these is a mile long, and discharges at a point 120 ft. below the reservoir water level, and the other is a mile and a half long, and discharges at a point 30 ft. lower again than the first branch.

Calculate the velocity of flow in each pipe.

NOTE.—*Answers should, as far as possible, be illustrated by sketches and diagrams.*

WEDNESDAY, 4th April 1900.—9 to 11 o'clock.

1. Discuss the theory of impact as it affects the driving of piles.

A monkey weighing 1 cwt. is used to drive a pitch-pine pile which stands 20 ft. out of the ground. Assign the fall, so that the inch-stress at the pile head may be less than 800 lbs.; and supposing the pile, with this fall, is driven 2 in. into the ground, determine to what extent it would be safe to increase it. The area of cross section of the pile is 14 square inches.  $E=660$  tons.

2. Describe fully the effects of a rolling load upon a beam.

Four wheels, each carrying 5 tons, are spaced 4 feet apart, and pass over a girder of 24 ft. span. Using a graphic method, determine the maximum *B.M.* at a point 8 ft. from one abutment, and also the absolute maximum *B.M.*

3. Deduce an expression determining the Centre of Pressure of a fluid on a plane surface.

A circular out-fall pipe 3 ft. in diameter, discharges into the sea. During high tide, its mouth is closed by a flap-valve hinged to the top of the pipe, and making an angle of  $60^\circ$  with its horizontal axis. With a 6 feet depth of sea-water above this axis, determine what the internal pressure on the flap-valve will be when it is just on the point of opening.

4. Mention the chief objection to the use of a simple slide valve for early cut off in the Steam Engine.

Suppose  $a$  be the angular advance of the eccentric, and  $\theta$  the angular distance of the crank from the dead centre, show that, neglecting obliquity, the opening to steam is  $\rho \sin(\theta - a) - l$ , where  $\rho$  is the eccentric radius, and  $l$  the outside lap.

Using this expression, construct a valve diagram.

Also, given the following: Lead =  $\frac{1}{4}$ " ; Maximum opening to steam =  $\frac{3}{4}$ " ; and cut off at  $\frac{5}{8}$  of stroke,—determine the travel of the valve.

5. Under which conditions is a Governor said to be isochronous?

Prove that a Governor is stable, isochronous, or unstable, according as

$$\frac{dF}{F} \begin{matrix} > \\ = \\ < \end{matrix} \frac{dr}{r}.$$

where  $F$  is the controlling force when the centres of gravity of the balls are distant  $r$  from the axis of rotation. Why are isochronous governors not used in practice?

NOTE.—Answers should, as far as possible, be illustrated by sketches and diagrams.

## DRAWING.

THURSDAY, 5th April 1900.—9 to 12 o'clock.

### I.—PLANE GEOMETRY.

1. Construct a right-angled triangle whose hypotenuse is 3", and the sum of whose other sides is 4.2 inches.

2. An oscillating lever in a Sewing Machine is actuated by a cylindrical cam whose axis is horizontal and parallel to the plane of motion.

The shorter arm of the lever is  $1\frac{3}{4}$ " long, and has a spherical roller attached to it and let into a groove in the cam. The groove is  $\frac{1}{2}$ " deep and  $\frac{5}{16}$ " wide at top. The roller is barely  $\frac{1}{2}$ "

diameter. The barrel is  $2\frac{1}{16}$ " diameter, on a spindle  $\frac{1}{2}$ " diameter. The longer arm is 5" in length, and its tip has the following motion:—

During  $\frac{9}{32}$  revolution of the cam it is at rest in the central position.

During the next  $\frac{1}{5}\frac{1}{2}$  revolution it travels to .9" on one side of the central position.

During the next  $\frac{1}{5}\frac{1}{2}$  revolution it travels to 1.2" on the *other* side of the central position.

During the next  $\frac{6}{32}$  revolution it remains stationary.

During the remainder of the revolution it returns to its initial position.

In all cases the motion is at a uniform rate.

Design the cam, and show the travel of the given point.

3. You are given a sketch of the Section of a rail weighing 85 lbs. per yard.

By means of graphic construction only find the position of its Neutral Axis, and determine its Moment of Inertia about that Axis. Give the result in inch units.

4. Determine the stresses in the members of the Roof Truss of which the Frame Diagram is given, under the conditions, as regards loading, indicated in the accompanying Sketch.

## II.—SOLID GEOMETRY.

5. Determine the projections of a regular pentagon, lying in the plane  $v'fh$ . The plan  $ab$  of one side is given. (See Sketch.)

6. A right cone whose base is  $4\frac{1}{2}$ " dia. and altitude  $5\frac{1}{4}$ " stands with its axis vertical. It is pierced by a cylinder 2" dia., whose axis is horizontal,  $1\frac{5}{8}$ " above the base of the cone and  $\frac{1}{16}$ " from its axis.

Draw the plan and elevations necessary to show the interpenetration.

N.B.—It is necessary that both Questions in Solid Geometry be answered.

THURSDAY, 5th April 1900.—2 to 5 P.M.

*Make carefully finished drawings, giving all the necessary views, of  
EITHER of the following.*

**A. CHAIN GEARING OF A SAFETY BICYCLE.**

The pitch of teeth on the crank-wheel is 1". The gear of the machine is 70. The driving-wheel is 28" diameter. The sprocket-wheel has 9 teeth. The centres of the wheels are  $19\frac{1}{2}$ " apart. The width of chain is  $\frac{3}{8}$ ". The length of crank is  $6\frac{1}{2}$ ", and the maximum pressure on each pedal is not likely to exceed 200 lbs.

Design and draw the two wheels and the chain.

*Scale—Full size.*

**B. IRON ROOF TRUSS.**

From the details supplied with the accompanying sketch complete the drawings indicated.

**DYNAMICS.**

TUESDAY, 3rd April 1900.—2 to 5 P.M.

1. Find expressions for the accelerations of a point along and perpendicular to the radius vector.

A particle is fastened to a string which is wound round a circular disk. The particle moves in the plane of the disk, so that the string is kept taut and unwinds at a steady rate. What is its acceleration in magnitude and direction and where does the line of the acceleration cut the radius through the point at which the string at the instant leaves the disk?

2. If a sphere of mass  $m$  impinge on another of mass  $m'$  when their velocities  $u$  and  $u'$  are inclined at angles  $a$  and  $a'$  to the line joining their centres, find their velocities after impact, the coefficient of restitution being  $e$ .



A ball is projected up from a point near the edge of a step so that it lands on the same point of the next (lower) step of the staircase, whence it rebounds and lands on the same point of the next again and so on. If  $e = \frac{1}{2}$  and the width and depth of the step be  $a$  and  $\frac{1}{2}a$ , find the velocity and direction of projection.

3. What is meant by the dimensions of a physical quantity? If a particle start from rest at a distance  $a$  from a centre of force attracting as the  $n^{\text{th}}$  power of the distance, employ the theory of dimensions to find how the period of oscillation depends on  $a$ .

Find the period if the force be  $\mu/(\text{distance})^2$ .

4. Find the three principal moments of inertia for an elliptic disk about its centre.

If the disk rest in a vertical plane with one end of its minor axis on a rough horizontal plane, find the period of small oscillations in its plane about this position of equilibrium.

5. A point moves in an ellipse so that its velocity parallel to the major axis is constant, find its acceleration in terms of the ordinate.

A particle describes the path whose equation is  $x^2 + y^2 = a^2$  under a force perpendicular to the line  $x + y = 0$ . Find the force and velocity at any point.

6. Show how to find graphically the forces along light rods forming a framework with forces acting at its corners.

$AB, BC, CD, DE, EF, FA$  with  $BF$  and  $CE$  are 8 light rods forming a regular hexagon with two struts. Equal weights are attached to the six corners and the framework is hung up by the point  $A$ . Find graphically the forces along the struts  $BF$  and  $CE$ .

7. Investigate the form of catenary in which a uniform chain hangs.

A wire weighing 10 lb. is stretched until the distance between

its ends, which are at the same level, is ten times the droop at the centre. Find the tensions at the lowest and highest points.

8. Explain what is meant by the ellipse of stress. Show how to draw it when the principal stresses have values 200 and  $-390$ , and calculate the tangential and normal components of stress on the planes bisecting the angles between the principal planes.

9. Discuss the general relations between stress and strain in a homogeneous isotropic solid. Consider in particular the isotropic stress, the shearing stress, and the longitudinal tension, and deduce an expression giving Young's Modulus in terms of the rigidity and the resistance to compression.

Or, as an alternative, assuming the usual expression for the flexural rigidity, find the droop of the free end of a uniform beam of given length, whose other end is fixed so that the beam, at its start, is horizontal.

10. A uniform rectangular disk is moving with given velocity and angular speed in its own plane. When the centre of mass is moving in the line of one of the diagonals, one end of that diagonal is fixed for an instant and then left free. Show that the angular speed is suddenly reduced to one-fourth of its original value; and that, if the energy of motion is reduced to  $1/28$  of the original value, the original speed of the centre of mass must have been equal to the original angular speed of the disk multiplied by the diagonal.

11. What are the conditions of equilibrium of a rigid body? Prove the energy principle which enables us to determine whether the equilibrium is stable, neutral, or unstable.

Apply the principle to find the position of equilibrium of a rod  $AB$ , which is hinged at  $A$ , the end  $B$  being attached to a cord which passes over a smooth peg at  $C$  and supports at its free extremity a load equal to one quarter the weight of the rod. Take the point  $C$  anywhere in the horizontal line through  $A$  and at any convenient distance.

12. A body is oscillating about a horizontal axis not passing through the centre of gravity. Find the reactionary stress on the axis in any position, the body having started from rest with the centre of gravity and the axis of rotation at the same level.

## GEOLOGY.

THURSDAY, 29th March 1900.—1 to 3 o'clock.

1. What is the mineral composition and origin of the following rocks:—Blackband Ironstone, Serpentine, Gabbro, Marble, Graphite, Chalk, and Travertine?

2. How would you distinguish between an Aqueous, an Igneous, and a Metamorphic rock?

3. Define the terms Lamination, Foliation, and Slaty cleavage.

4. How would you distinguish between Gold, Copper Pyrites, and Iron Pyrites.

5. Define the following terms:—Isoclinal structure, Thrust-plane, Ground-moraine, Laccolite, Deflation, Overlap, and Unconformity.

## Public Health.

### MEDICINE.

WEDNESDAY, 28th March 1900.—10 to 12 o'clock.

#### I. BUBONIC PLAGUE.

Point out the present incidence of Bubonic Plague—

(a) In the Epidemic form.

(b) In the Sporadic form.

Describe the different types of this disease, and discuss the opinions held as to its etiology.

## II. MALARIA.

Explain the views held as to the relation of mosquitos to Malaria, and state the proofs in support of them. What bearing have these views on methods of prophylaxis?

## III. SMALLPOX.

Describe the rash of smallpox in its various stages. Describe also the various preliminary rashes occasionally met with in this disease.

## SANITARY LAW.

WEDNESDAY, 28th March 1900.—1 to 3 o'clock.

1. (a) What are the legal powers possessed by a local authority for dealing with insanitary property?

(b) What are the chief provisions of the Housing of the Working Classes Act, 1890? State how far they are applicable to rural districts.

2. An Urban District Council is forming bye-laws for new streets and buildings. Among others, the following have been drawn up:—

(1) "Every new building to be used as a dwelling-house shall have in the rear of such building, or at the side thereof, an open space belonging exclusively thereto, to the extent of at least 120 square feet, free from any erection thereon above the level of the ground. The distance across such open space, between such building and the opposite property at the rear or side, shall be at least 10 feet; if any such building be two storeys in height above the level of such open space the distance shall be 15 feet. If such building be three storeys, such building shall be 20 feet; if more than three storeys, the distance shall be 25 feet. When, however, ventilation of such open space is secured, or when, upon the rebuilding of houses

within the district these dimensions cannot be adhered to without considerable sacrifice of property, they may be modified in special cases at the discretion of the District Council."

(2) "Every person who shall construct a privy shall, if the District Council so direct, construct the same as follows:— Each privy shall have two compartments, one of which shall be constructed for the reception of *excreta* and the other for ashes and other materials. The ashes shall be passed over a metal grate to be fixed in the privy, so that the dust or fine ashes shall be poured or passed on to the *excreta* in one compartment, and the rough ashes and other materials into the other compartment. A plan of the privy to be submitted to the District Council before being built."

State if you approve of these bye-laws, and if not, point out wherein they are defective.

### VITAL STATISTICS.

WEDNESDAY, 28th March 1900.—4 to 6 o'clock.

1. What relation may a continued high birth-rate in any given locality be expected to bear to—

- (a) its general death-rate;
- (b) its zymotic death-rate;
- (c) its infantile mortality?

2. (a) Explain fully what is meant by the terms—

- (1) Probable duration of life.
- (2) Expectation of life.
- (3) Mean age at death.

(b) Describe the data which are necessary for the construction of a life table.

3. What facts are required to be stated in the decennial census papers? State any other facts which in your opinion it is desirable to add, and give fully your reasons for desiring these additions.

FRIDAY, 21st July 1899.—4 to 6 o'clock.

I.—THE FOLLOWING STATISTICS RELATE TO A COUNTY  
IN WALES.

DEATH RATES PER 1000.										
Year.	All Causes.	Chief Zymotic Diseases.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	"Fever."	Diarrhoea.	Infantile Mortality.
1893	19·1	2·32	0·006	0·44	0·21	0·28	0·15	0·40	0·81	155
1894	16·9	1·30	0·002	0·11	0·105	0·23	0·33	0·26	0·16	168
1895	19·6	2·59	0·000	0·69	0·15	0·39	0·38	0·25	0·72	210
1896	17·0	1·81	0·012	0·149	0·18	0·43	0·38	0·18	0·83	180
1897	17·3	2·60	0·000	0·85	0·18	0·45	0·43	0·15	0·61	166
1898	16·3	2·06	0·000	0·38	0·08	0·47	0·33	0·19	0·61	149

Discuss these rates and compare them in detail with the corresponding rates for the rest of the country. Give your opinion as to the healthiness or otherwise of this county, and indicate what other statistical information, if any, you would require, in one or another direction, to assist you in arriving at a definite opinion upon the subject.

II.—MORTALITY AS AFFECTED BY OCCUPATION.

- (a) In investigating this subject what age period is taken, and why?
- (b) What is the difference between the comparative mortality figure of "occupied" and "unoccupied" males at this age period, and what is the cause of this difference?



- (c) State the comparative mortality figure of (1) Agriculturists; (2) Printers; (3) Innkeepers, and point out the cause of the difference between them.

### SANITATION.

THURSDAY, 29th March 1900.—10 to 12 o'clock.

1. (a) What substances are more commonly used as food preservatives?

(b) Mention what effects (if any) may be produced on health by the indiscriminate use of one and another of these substances.

(c) State what you know as to the powers of Local Authorities to control the use of preservatives in food, and give your opinion as to whether these powers require extension.

2. The Town Council of a City proposes to establish a sewage irrigation farm, on an area situated on the chalk formation, which is here covered by a thin layer of soil. There is no impervious layer interposed between the soil and the chalk. About 2 miles distant from this site, a public water supply is obtained by pumping from a deep well sunk in the same chalk formation. What are the considerations which would weigh with you in forming an opinion as to the advisability of proceeding with the scheme?

3. What are your views as to the desirability of the compulsory notification of any forms of tubercular disease?

### PRACTICAL SANITATION.

SATURDAY, 22nd July 1899.—10 to 12 o'clock.

#### I. OYSTERS AND INFECTION.

- (a) Give a summary of the facts which have led to the belief that the consumption of oysters has been the cause of attacks of illness, such as Enteric Fever.

(b) Explain how specific contamination of oysters may occur.

(c) State what steps, in your opinion, should be taken, by law or otherwise, to prevent such contamination.

II. Discuss the facts in support of the view that the increase of Diphtheria in certain large cities is due to School attendance.

### III. INFECTED MILK SUPPLY—

Discuss the comparative merits of (1) "Sterilization";

(2) Pasteurization; (3) Scalding of Milk.

## Agriculture.

### AGRICULTURE.

FRIDAY, 30th March 1900.—9 to 12 o'clock.

1. If you were placed in charge of 100 acres of arable land in your native country, indicate—

(a) The general system of management which you would adopt.

(b) The Rotation you would select. Describe in detail.

(c) Your method of growing the green crop.

(d) Your plan of cattle-feeding in winter.

2. Under what circumstances would you advise the application of farm-yard manure in Autumn?

3. A farmer who works his land on a 5-course rotation finds that he has not sufficient dung to cover the entire fallow break; he therefore grows part of his turnip crop with artificial manures only. Assuming the land to be light loam in fair condition, what mixture would you recommend for the roots, and what manures, if any, for the subsequent crops of the rotation?

4. Explain how copper or iron sulphate may be employed

for the eradication of charlock, and make an estimate of the cost of treating 20 acres.

5. Make notes on the characters and agricultural importance of the following plants :—Alsike, Crimson Clover, Yellow Clover, Golden Oatgrass, Crested Dogstail, Ribgrass, Burnet.

6. 100 half-bred hogs averaging 90 lbs. live weight, are put on turnips on November 1st; assuming that they are to be ready for market by March 1st, say how you would feed them, how many acres of roots you would reserve for them, and what weight you would expect them to make.

7. Give an account of any rapid and satisfactory method of estimating the percentage of butter-fat in milk.

8. Make a sketch showing the ground plan of the buildings which you would consider necessary for the farm mentioned in Question 1.

9. Write a paper on—

(a) Finger and Toe in turnips ; or

(b) Scab in Sheep.

## AGRICULTURAL CHEMISTRY.

FRIDAY, 30th March 1900.—1 to 3 o'clock.

1. How can the presence of Clay in a colloid condition be determined in a soil? How are the physical texture and the fertility of a soil influenced by its presence?

2. How is the manurial value of Farm-yard Manure affected by each of the following circumstances :—

The kind of stock from which it is derived.

The quantity of straw used as litter.

The method of its manufacture and preservation.

The mode of its application?

3. What is Rennet? How is it made and preserved? What

are the circumstances that affect its efficacy when used to coagulate Casein?

4. What circumstances determine the amount of produce that may be sold from a farm, without diminishing its value, provided that no feeding stuffs nor manures are bought in?

5. What are the chief differences between Butter-fat and Lard in physical properties, and in chemical composition?

6. What is the value per unit of Phosphate of Lime, rendered soluble in a superphosphate, containing 26 per cent. soluble phosphate, and what is the value per unit of nitrogen in nitrate of soda of 95 per cent. purity, when the former costs 57s. per ton, and the latter costs 192s. per ton? How are the values of the units of phosphate of lime and nitrogen arrived at in the case of such a substance as Bone Meal?

## VETERINARY HYGIENE.

MONDAY, 26th March 1900.—1 to 3 o'clock.

1. Enumerate the different vertebrae from before backwards. State the difference between any two kinds in the horse.

What function does the spinal column fulfil in the economy of the nervous system?

2. Describe the mouth as to age (incisors only) of the horse and ox at three years old.

3. What is Foot and Mouth Disease? Describe the symptoms and lesions seen in a typical case. How would you treat it, and what measures would you adopt for the prevention of its spread, locally and generally.

4. How would you distinguish Arterial from Venous haemorrhage? Which is most dangerous, and why? State how you would arrest the haemorrhage from a deep lacerated wound in front of the thorax.

5. State what you know about Foot rot in sheep, its causes, symptoms, and treatment.

6. What do you think is the nature of the disease in horses known as "Pinkeye"? What are its symptoms? How would you treat it, and what measures would you recommend for the prevention of its spread?

### GEOLOGY.

*Same as for Engineering.*

### AGRICULTURAL ENTOMOLOGY.

THURSDAY, 5th April 1900.—9 to 11 o'clock.

1. Name four insects injurious to Cereal Crops, and give the life-history of any one of them, noting means of prevention of, or remedy for, its ravages.

2. How would you recognise the larvæ respectively characteristic of the Orders Coleoptera, Diptera, Lepidoptera, Hymenoptera?

3. Name two useful insects belonging to each of the Orders Hymenoptera, Coleoptera, Neuroptera, and say why you regard them as useful.

4. What insect enemies of farm live stock are you acquainted with? Give a detailed account of either the Green Bottle fly (*Lucilia*), or the Ox Warble fly (*Hypoderma bovis*), or the Sheep Kade (*Melophagus ovinus*), and describe how you would proceed against the pest you select.

5. What are the characteristic features in (a) the structure, and (b) the life-history of the Aphides? How are the ravages of these insects best dealt with?

### ECONOMIC SCIENCE.

*Same as the First Paper for M.A.*

## FORESTRY.

THURSDAY, 5th April 1900.—11.30 to 1.30 o'clock.

1. (a) State the sylvicultural characteristics of Ash (*Fraxinus excelsior*) as to (1) light and shade; (2) soil and situation; (3) root-system; (4) rate of growth; (5) reproductive power and regenerative capacity.

(b) Say how you think Ash can best be grown in Britain, and state the reasons upon which your opinion is based.

2. Describe the structure and the technical properties of the wood of the Scots Pine (*Pinus sylvestris*), and state for what purposes it is commonly used.

3. (a) Describe the Pine Weevil (*Hylobius abietis*), and state the nature of the damage it does.

(b) Give its life-history briefly.

(c) State the best means of preventing its attacks, and also the best measures practicable for minimising or remedying damage done by it.

4. (a) Name, and describe the appearance of, the Fungus which causes "canker" in Larch.

(b) Why is this disease so prevalent in Britain?

(c) What are the best methods of growing Larch so as to obviate, so far as possible, damage from this Fungus?

5. (a) Enunciate briefly the principles upon which thinnings should be made in woods, (1) in the thicket stage of growth; (2) in the pole-forest stage; and (3) in the tree-forest stage, after the main growth in height has been practically completed.

(b) State, giving reasons for your statement, how the degree of thinning during any given stage in the development of timber crops should vary according to (1) the demand for light made by the trees forming the crop; and (2) the general quality of the soil and situation.



6. State the advantages and the disadvantages of each of the three silvicultural systems, (a) high forest; (b) coppice with standards; (c) simple coppice.

## ENGINEERING FIELD-WORK.

TUESDAY, 3rd April 1900.—3 to 5 o'clock.

1. Mention the more important standards of measurement used in Field-work operations, and give the reasons why each has been selected.

2. Explain how you would keep a Field-book for chain surveying in case of a large estate, and give your reasons for all the notes you would think it necessary to enter.

3. What is the "line of collimation? Describe its adjustment so that it may be perpendicular to the vertical axis in the Transit Theodolite.

4. Explain clearly how you would gauge a stream, so as to ascertain its suitability for driving a mill required to do a given amount of work.

5. Describe the method of contouring, and mention some of the uses of contour lines as shown on plans.

6. Give an example of a small closed Circumferenter survey, and show how to plot it by the method of co-ordinates.

NOTE.—*Answers should, as far as possible, be illustrated by sketches and diagrams.*

## EXPERIMENTAL PHYSICS.

WEDNESDAY, 4th April 1900.—3 to 5 P.M.

(A written description of the method used must first be given, the experiment is then to be performed, the measurements entered, and the calculation and result shown.)

1. Find the specific gravity of the given solid.

2. Find the value of  $g$ .
3. Compare the electromotive forces of the given cells.
4. Find the moment of the given magnet.
5. Measure the focal length of the given concave lens.
6. Determine the electric resistance of the given wire.
7. Find the length of the sound-wave emitted by the given fork.
8. Compare the intensities of two given sources of light.

## Papers for Degree of B.D.

### DEPARTMENT I.

#### HEBREW.

TUESDAY, 27th March 1900.—10 to 1 o'clock.

#### A.

1. Point the following:—

ויהי בחצי הלילה ויהוה הכה כל-בכור בארץ מצרים  
 מבכר פרעה הישב על-כסאו עד בכור השָׁבִי אשר בבית  
 הבור וכל בכור בהמה: ויקם פרעה לילה הוא וכל-  
 עבדיו וכל-מצרים ותהי צעקה גדלה במצרים כי-אין  
 בית אשר אין-שם מת: ויקרא למשה ולאהרן לילה  
 ויאמר קומו צאו מתוך עמי גם-אתם גם-בני ישראל  
 ולכו עבדו את-יהוה כדברכם: גם-צאנכם גם-בקרכם  
 קחו כאשר דברתם ולכו וברכתם גם-אתי: ותחזק  
 מצרים על-העם למהר לשלחם מן-הארץ כי אמרו כלנו  
 מתים:

2. Translate and annotate the following verses:—

(a) וַיֵּלֶךְ אִישׁ מִבֵּית לֹוֹ וַיִּקַּח אֶת-בֶּת-לֹוֹ:

(b) וַיֹּאמֶר בִּי אֲדֹנָי שְׁלַח-נָא בִּיד-תִּשְׁלַח:

(c) נָחִית בַּחֲסִדֶּךָ עִם-דָּוִד גִּאֲלָתָה נִהְלָתָה בַּעֲוֹד אֶל-נְוֶה קְדֻשֶׁךָ:

3. Give some account of the views of recent scholars regarding the pronunciation, etymology, and signification of the name יהוה; or, summarise the evidence for the critical view that the narrative of the call of Moses, Exodus iii. ff., is not the homogeneous product of a single pen.

4. (a) Translate:—

1 הָרִים רָעִשׁוּ מִפָּנָיו וְהַגְּבָעוֹת הִתְמַנְּנוּ וַתֵּשָׂא הָאָרֶץ מִפָּנָיו וַתִּבֶּל וּכְל-

2 יוֹשְׁבֵי בָהּ: לִפְנֵי זַעַמֹּו מִי יַעֲמוּד וּמִי יָקוּם בַּחֲרוֹן אַפּוֹ חֲמָתוֹ נִתְּכָה

3 כְּאֵשׁ וְהַצִּרִים נִתְּצוּ מִפָּנָיו: טוֹב יִהְיֶה לְמַעַז בְּיוֹם צָרָה וְיָדַע חֲסִי בּוֹ:

4 וּבִשְׁטָף עֶבֶר כָּלָה יַעֲשֶׂה מְקוֹמָהּ וְאֵיבָיו יִרְדֶּה-חֲשָׁף:

(b) Remark on the syntax of the last two words of verses 1 and 3; give the absolute form and verbal root of חמתן (verse 2); parse כלה (verse 4), and give the syntax of both halves of this verse; comment on the suffix of מקומה, and examine critically in the light of the LXX. τοὺς ἐπεγειρομένους.

(c) Give the etymology and signification of the name Nahum. Discuss briefly the theological teaching of chapter i.

5. (a) Translate:—

1, 2 תִּפְלָה לַחֲבִיקוֹק הַנְּבִיא עַל שְׁגִינוֹת: יְהוָה שָׁמַעְתִּי שְׁמַעְךָ יִרְאֵתִי

יְהוָה פָּעַלְךָ בְּקֶרֶב שָׁנִים חִיָּהוּ בְּקֶרֶב שָׁנִים תוֹרִיעַ בְּרָגוֹ רַחֵם תַּזְכּוֹר:

3 אֱלֹהִים מִתִּימֹן יִבּוֹא וְקֹדֶשׁ מִהַר-פָּאֶרָן יִסָּלֵה בְּפֶה שְׁמַיִם הוֹדוֹן וַתִּהְלֹתוּ

4 מִלֵּאָה הָאָרֶץ: וְנִגְהָ בְּאוֹר תִּהְיֶה קֶרְנִים מִיָּדוֹ לֹו שֵׁם חֲבִיּוֹן עוֹה:

5 לִפְנֵי יְלֹךְ דָּבָר וַיֵּצֵא רֹשֶׁף לְרִגְלָיו : עָמַד וַיִּמְדָּד אֶרֶץ רָאָה וַיִּתֵּר גּוֹיִם  
וַיִּתְּפֹצְצוּ הָרִירִי-עַד שָׁחוּ גִבְעוֹת עוֹלָם הִלִּיכוֹת עוֹלָם לוֹ :

(b) Parse שמעך, giving exact force of the suffix, חייהו, רחם (all in verse 2), עזה (verse 4). Write short exegetical notes on verse 3 a, on קרנים מידו לו (verse 4), and on the opening clause of verse 6. On what grounds is this Psalm regarded as of post-exile origin?

6. (a) Translate:—

1 בַּיּוֹם הַהוּא לֹא תִבּוֹשִׁי מִכָּל עֲלִילוֹתֶיךָ אֲשֶׁר פָּשַׁעְתָּ בִּי בִּי-אֶזְרוּ  
אֶסִּיר מִקֶּרְבְּךָ עָלָיו גִּאֲוֹתֶךָ וְלֹא-תוֹסִפִּי לִגְבָּהָה עוֹד בְּהָר קִדְשִׁי :  
2, 3 וְהִשְׁאֲרֵתִי בְּקֶרְבְּךָ עִם עָנִי וְדָל וְחָסוּ בְּשֵׁם יְהוָה : שְׂאֲרֵית יִשְׂרָאֵל לֹא-  
יַעֲשׂוּ עוֹלָה וְלֹא-יִדְבְּרוּ כֹזֵב וְלֹא-יִמְצֵא בִפְיָהֶם לְשׁוֹן תַּרְמִיט פִּירֵהֶמָּה  
יִרְעוּ וְרִבְצוּ וְאֵין מַחֲרִיד :

(b) Give a careful exegesis of this passage.

(c) What is known of the person and date of the prophet Zephaniah?

## B.

### I.—TRANSLATION INTO HEBREW.

1. (a) We have nothing whatever of this kind.

(b) We are all members of his household.

(c) You have acted rightly. What is the matter with you?

2. On the third day with the dawn of morning came peals of thunder and flashes of lightning from a thick cloud over the hill. Trumpet blasts sounded loudly and every one in the camp was terrified. Moses led out the people to meet Jehovah, and they stationed themselves at the foot of the mountain. The hill was a mass of smoke for Jehovah had descended upon it in fire. The sound of the trumpet grew louder and louder. And now the people in their fear desired to stand at a distance,

and they said to Moses, Speak you to us, let not God do so lest we die. Moses told them not to fear, since God came only to test them and teach them reverence for Himself. Then he approached the dark cloud where God was and had speech with Him.

## II.—PSALMS (Book I.).

### 1. Translate:—

(a) לָכֵן שָׁמַח לִבִּי וַיִּגַּל בְּבוּרֵי אֶף-בְּשָׁרֵי יִשְׁכֹּן לְבַטָּח : כִּי לֹא-תַעֲזֹב  
נַפְשִׁי לְשֹׂאֵל לֹא-תִתֵּן חֲסִידְךָ לְרֹאוֹת שָׁחַת : תוֹדִיעֵנִי אֲרַח חַיִּים שְׁבַע  
שְׁמַחוֹת אֶת-פְּנֶיךָ נְעִימוֹת בְּיָמֶיךָ נָצַח :

(a) Write notes on:—יָגַל (phonetic history), בְּבוּרֵי (meaning),  
לֹא-תַעֲזֹב (termination), שְׁמַחוֹת (form), נָצַח (syntax).

(b) Is the Psalmist's hope one of immortality?

(b) אֲרוֹמֶמְךָ יְהוָה כִּי דָלִיתִי וְלֹא-שָׁמַחַת אִיבִי לִי : יְהוָה אֱלֹהֵי  
שׁוֹעֲתִי אֵלַיךְ וַתִּרְפָּאֵנִי : יְהוָה הֶעֱלִית מֶן-שְׂאֹל נַפְשִׁי חַיִּיתִי מִיָּרֵד  
בּוֹר : זָמְרוּ לַיהוָה חֲסִידָיו וְהוֹדוּ לִזְכֹּר קִדְּשׁוֹ : כִּי רָגַע בְּאָפּוֹ חַיִּים  
בְּרָצוֹנוֹ בַּעֲרֵב יִלֵּן בְּכִי וּלְפָקֶד רָנָה :

Write expository notes on דָלִיתִי, זָכַר קִדְּשׁוֹ, and on verses 3 and 5.

2. What Hebrew text does the Septuagint suggest in the following passages? Point out the difficulties of the Massoretic text:—

(a) הֲלֹא יָדְעוּ כָל-פְּעָלַי אֵין אֲכָלִי עֹמִי אֲכָלוּ לָחֶם :

Sept., οὐχὶ γνώσκονται πάντες οἱ ἐργαζόμενοι τὴν ἀδικίαν, οἱ κατέσθοντες τὸν λαόν μου βρώσει ἄρτον;

(b) דִּרְשֵׁתִי אֶת-יְהוָה וְעֲנֵנִי וּמִפֶּל-מְנוּרוֹתַי הִצִּילֵנִי :

הִבִּיטוּ אֵלָיו וְנִהְרָו וּפְנִיָּהֶם אֶל-יַחֲפָרוּ :

Sept., . . . προσέλθατε πρὸς αὐτὸν καὶ φωτίσθητε, καὶ τὰ πρόσωπα ὑμῶν οὐ μὴ κατασχυνθῇ.

(c) כִּי יְהוּה אֱהָב כְּשֶׁפֶט וְלֹא יַעֲזֹב אֶת-חֲסִידָיו לְעוֹלָם נִשְׁמְרוּ וְזָרַע רְשָׁעִים נִכְרַת׃ צְדִיקִים יִירָשׁוּ אֶרֶץ וְיִשְׁכְּנוּ לָעַד עֲלֶיהָ׃

Sept. (NART), . . . εἰς τὸν αἰῶνα φιλαχθήσονται ἄνομοι δὲ ἐκδιωχθήσονται, καὶ σπέρμα ἁσεβῶν ἐξολεθρευθήσεται. . . .

### III.—HISTORY.

1. What is known of the circumstances of Isaiah's "call" to be a prophet? Discuss theologically.
2. Explain the significance of the reformation of 621 in the religious history of Israel.
3. Sketch the political history of Judah during the thirty years preceding the exile.

### APOLOGETICAL THEOLOGY.

TUESDAY, 27th March 1900.—2 to 5 o'clock.

#### (A) THE RELATIONS OF PHILOSOPHY AND THE POSITIVE SCIENCES TO THEOLOGY.

1. State generally the principle of Kant's Theory of Knowledge, and show how he applies it in his criticism of Rational Theology. Does Kant's Ethical Philosophy furnish a legitimate and practical refutation of Agnosticism?
2. Specify the Biblical designations of Miracle, emphasising the special significance of each. How has theology met the Naturalistic attack on Miracle? Refer particularly to the positions of Mozley, or Pfleiderer, or Bruce.
3. Define Pantheism. Distinguish the principal conceptions of the nature of the Absolute Unity which have been held in the pantheistic schools, and indicate how these conceptions have been utilised in theistic speculation.



4. Explain how erroneous views in Theology have led to the discouragement and contradiction of Medical Science. Give illustrative instances.

(B) CHRISTIANITY AND MORALITY.

1. What is the problem of Theological Ethics?

Define Christian Ethics, distinguishing it from philosophical Ethics and Biblical Ethics.

What are the fundamental principles of Christian Ethics?

2. Discuss the ethical character of the Christian doctrines of Humility, Forbearance, and Fasting.

3. State the argument built upon the regenerative power of Christianity. Enumerate the sources of that power.

"Christianity has been the cause of not a little misery in the world." Give illustrations adduced in support of this statement; and meet the objection based on it.

4. How does Christian Ethical Theory regard Nature and the struggle for existence? Comment in this connection on the views of Nietzsche and Huxley.

(C) CHRISTIANITY COMPARED WITH THE ETHNIC RELIGIONS.

1. What methods are available for determining the specific nature and differentia of Christianity as a Religion? Comment on the value for this purpose of the Comparative History of Religions.

2. Compare, generally yet comprehensively, Buddhism with Christianity and Modern Pessimism.

3. Contrast the following beliefs:—

(a) Stoic "Providence" and Christian Providence.

(b) Hebrew and Christian doctrines of the Holiness of God.

(c) Egyptian and Christian eschatology.

(d) Greek mysteries and Christian sacraments.

4. Distinguish Hebrew prophecy from heathen divination, and both from Christian inspiration.

## DEPARTMENT II. ECCLESIASTICAL HISTORY.

WEDNESDAY, 28th March 1900.—10 to 1 o'clock.

### A. *Early Church Period ; A.D. 100 to 451.*

1. Write a short note on the training and ordination of the clergy.
2. Explain the origin of the Patriarchates ; and trace the progress of Rome towards a Primacy.
3. Show the nature and amount of the *Judaic* influence in Christian doctrine, ritual and organisation.
4. Sketch the career and church principles of Cyprian ; and estimate his significance in history. Discuss the statement :—  
“Cyprian was no theologian.”
5. Trace the genesis and growth of sacerdotalism in the post-Apostolic Church.
6. Contrast *either* Origenism with Athanasianism.  
or Athanasianism with Augustinianism.
7. “No ante-Nicene writer held a Trinity of co-equal Persons.” Examine this statement.
8. Sketch the history of (a) the Apollinarian, (b) the Nestorian, and (c) the Eutychian controversy.

### B. *Scottish Church History ; 16th Century.*

9. Describe the school system prior to the Reformation and the educational condition of the people ; and state in detail the novel points in the scheme of Knox.
10. What changes in worship did the Reformers make ? Give the reason of their adopting “the Book of Common Order.” Contrast their ideal of Divine Service with that of the pre-Reformation Church.
11. Discuss Knox’s relation to the arrangements known as the Concordat of Leith.
12. Contrast the First and Second Book of Discipline.

SYSTEMATIC THEOLOGY.

WEDNESDAY, 28th March 1900.—2 to 5 o'clock.

(A.) THE HISTORY OF CHRISTIAN DOGMATICS SINCE THE REFORMATION AND ESPECIALLY DURING THE PAST CENTURY.

1. Exemplify and account for the differences in dogmatic construction existing between Protestant and Jesuit Theology, and between the Lutheran and Socinian Systems.

Give an account of the Institutes of Calvin.

2. Trace the course of the controversy between the Calvinistic and Arminian Theologians in England in the eighteenth century.

What modifications of Arminian doctrine did Wesley introduce?

3. Name the three chief representatives of the nineteenth century German School of Conciliation (*Vermittelungs theologie*). Describe the common positions of the School; and the minor divergences peculiar to each of the three.

4. Give a critical account of the main theological tenets of either Dr. Martineau, or Principal Caird.

(B.) CHRISTOLOGY.

1. Discuss the relative evidential value of Miracles and the Person of Christ.

2. Describe and criticise the speculative Christological ideas of Kant, Schelling, and Hegel.

3. State the essential problem of Christ's Person. What were the views respecting the Person of Christ distinctive of the Ebionites, the Docetae, the Arians, the Apollinarians, the Nestorians, and the Eutychians?

4. In reference to Christ's knowledge consider the following aspects:—

(a) The nature of His knowledge of God.

- (b) The nature of His knowledge of man.
- (c) The relation between His Omniscience and His Human Consciousness.

(C.) DOCTRINE OF THE CHURCH AND SACRAMENTS.

1. What general directions as to the character of the Church, and what definite instructions, may be traced to Christ's positive command?
2. Explain the following characteristics of the Church, viz.:—her unity, sanctity, catholicity, apostolicity.
3. On what grounds has the sacerdotal nature of the Church in both aspects of her life, worship and conduct, been maintained? Is there a twofold priesthood of the laity and of the ministry? If you think so, explain and vindicate the distinction.
4. What is "the sacramental principle"? What different forms of expression has it assumed? What truth is it held to safeguard? How is it related to the faith of the recipient on the one hand, and to the operation of the Holy Spirit on the other?

BIBLICAL CRITICISM.

THURSDAY, 29th March 1900.—10 to 1 o'clock.

1. Name the Gospel MSS. (in Greek) assigned to the 4th, 5th, and 6th centuries. State their present contents, and indicate the textual value of the most important.
2. Explain the terms:—*itacism*, *uncial*, *stichometry*, *catena*, *διορθωτής*, *κεφάλαια majora*, *κεφάλαια minora*. Give the derivations of *itacism* and *uncial*.
3. Give an account of the Syriac Versions and discuss their relation to one another.
4. State and illustrate the chief general rules for determining the text.

5. Summarise the discussions connected with the canon of Marcion. State what is known of his life and teaching.

6. Summarise the external evidence for the authenticity of the 4th Gospel up to *circa* 170 A.D.

7. Indicate the main points in the witness of Cerinthus, the Ebionites, and Heracleon to the Canon of the New Testament.

8. Discuss the meaning of the title of the work of Papias, and comment on his statements in regard to the Gospels of Matthew and Mark.

9. What evidence of Paul's release from imprisonment at Rome, and of a second imprisonment there, is contained in the Pastoral Epistles? Discuss the alleged counter evidence of the Book of Acts.

10. "St. Paul, who in any case wrote not fewer than *three*, can be fairly proved to have written *four*, and may very probably have written *five*, letters to the Corinthians, including our two Canonical Epistles." Examine this statement.

11. (a) Against whom is the epistle of Jude directed?

(b) Comment on the extent to which it postulates a formulated "orthodoxy," and on its classification as a Catholic Epistle.

12. Examine the theories (1) that the Epistle of James is not a Christian, but a Jewish, document, (2) that it was written in the second century.

13. Discuss the destination of the Epistle to the Hebrews.

14. Translate, with critical and exegetical notes:—

(1) ἀλλὰ προσεληλύθατε Σιών ὄρει, καὶ πόλει Θεοῦ ζῶντος, Ἱεροουσαλήμ ἐπουρανίῳ, καὶ μυριάσιν ἀγγέλων πανηγύρει καὶ ἐκκλησίᾳ πρωτοτόκων ἐν οὐρανοῖς ἀπογεγραμμένων, καὶ κριτῇ Θεῷ πάντων, καὶ πνεύμασι δικαίων τετελειωμένων, καὶ διαθήκης νέας μεσίτῃ Ἰησοῦ, καὶ αἵματι ῥαντισμοῦ κρείττονα λαλοῦντι παρὰ τὸν Ἀβελ. Βλέπετε μὴ παραιτήσησθε τὸν λαλοῦντα· εἰ γὰρ ἐκεῖνοι οὐκ ἔφυγον τὸν ἐπὶ τῆς γῆς παραιτησάμενοι χρηματίζοντα, πολλῷ μᾶλλον ἡμεῖς οἱ τὸν ἀπ' οὐρανῶν ἀποστρεφόμενοι· οὐ ἢ φωνὴ τὴν

γῆν ἐσάλευσε τότε, νῦν δὲ ἐπήγγελλται, λέγων, “Ἐτι ἅπαξ ἐγὼ σείω οὐ μόνον τὴν γῆν, ἀλλὰ καὶ τὸν οὐρανόν.” Τὸ δὲ, “Ἐτι ἅπαξ,” δηλοῖ τῶν σαλευομένων τὴν μετάθεσιν ὡς πεποιημένων, ἵνα μείνῃ τὰ μὴ σαλευόμενα.

(2) εἰ γὰρ τὸ αἷμα ταύρων καὶ τράγων καὶ σποδὸς δαμάλεως ῥαντίζουσα τοὺς κεκοινωμένους ἀγιάζει πρὸς τὴν τῆς σαρκὸς καθαρότητα, πόσῳ μᾶλλον τὸ αἷμα τοῦ Χριστοῦ, ὃς διὰ πνεύματος αἰωνίου ἐαυτὸν προσήνεγκεν ἁμωμον τῷ Θεῷ, καθαρῶς τὴν συνείδησιν ὑμῶν ἀπὸ νεκρῶν ἔργων εἰς τὸ λατρεύειν Θεῷ ζῶντι; Καὶ διὰ τοῦτο διαθήκης καινῆς μεσίτης ἐστίν, ὅπως θανάτου γενομένου εἰς ἀπολύτρωσιν τῶν ἐπὶ τῇ πρώτῃ διαθήκῃ παραβάσεων, τὴν ἐπαγγελίαν λάβωσιν οἱ κεκλημένοι τῆς αἰωνίου κληρονομίας. ὅπου γὰρ διαθήκη, θάνατον ἀνάγκη φέρεσθαι τοῦ διαθεμένου· διαθήκη γὰρ ἐπὶ νεκροῖς βεβαία, ἐπεὶ μὴ ποτε ἰσχύει ὅτε ζῇ ὁ διαθέμενος.

(3) Ἀθέτησις μὲν γὰρ γίνεται προαγωγῆς ἐντολῆς, διὰ τὸ αὐτῆς ἀσθενὲς καὶ ἀνωφελές, οὐδὲν γὰρ ἐτελείωσεν ὁ νόμος, ἐπεισαγωγὴ δὲ κρείττονος ἐλπίδος, δι’ ἧς ἐγγίζομεν τῷ Θεῷ.

### 15. Comment on and discuss:—

(a) Μετὰ δὲ τὸ παραδοθῆναι τὸν Ἰωάννην, ἦλθεν ὁ Ἰησοῦς εἰς τὴν Γαλιλαίαν, κηρύσσων τὸ εὐαγγέλιον τοῦ Θεοῦ, “Ὅτι πεπλήρωται ὁ καιρὸς, καὶ ἤγγικεν ἡ βασιλεία τοῦ Θεοῦ. μετανοεῖτε, καὶ πιστεῦετε ἐν τῷ εὐαγγελίῳ.”

The contents of our Lord's earliest preaching.

(b) Ὅτε δὲ ἐγένετο καταμόνας, ἡρώτων αὐτὸν οἱ περὶ αὐτὸν σὺν τοῖς δώδεκα τὰς παραβολάς. καὶ ἔλεγεν αὐτοῖς, “Ὑμῖν τὸ μυστήριον δέδοται τῆς βασιλείας τοῦ Θεοῦ· ἐκείνοις δὲ τοῖς ἔξω, ἐν παραβολαῖς τὰ πάντα γίνεται· ἵνα βλέποντες βλέπωσι, καὶ μὴ ἴδωσι· καὶ ἀκούοντες ἀκούωσι, καὶ μὴ συνῶσι· μήποτε ἐπιστρέψωσι, καὶ ἀφεθῇ αὐτοῖς.”

The meaning and historicity of the saying.

(c) “Τί ταῦτα διαλογίζεσθε ἐν ταῖς καρδίαις ὑμῶν; τί ἐστὶν εὐκοπώτερον, εἰπεῖν τῷ παραλυτικῷ, Ἀφένονται σοι αἱ ἁμαρτίαι ἢ εἰπεῖν, Ἐγείραι, καὶ ἄρὸν σου τὸν κράββατον, καὶ περιπάτει; ἵνα



δὲ εἶδῃτε, ὅτι ἐξουσίαν ἔχει ὁ υἱὸς τοῦ ἀνθρώπου ἀφίεναι ἐπὶ τῆς γῆς ἁμαρτίας, (λέγει τῷ παραλυτικῷ,) Σοὶ λέγω, ἔγειραι, καὶ ἄρον τὸν κράββατόν σου, καὶ ὕπαγε εἰς τὸν οἶκόν σου."

The use made of the passage in the argument that Mark was a source of the 1st and 3rd gospels.

16. (a) Translate:—

Ἀπὸ δὲ τῆς συκῆς μάθετε τὴν παραβολὴν· ὅταν αὐτῆς ἦδῃ ὁ κλάδος ἀπαλὸς γένηται, καὶ ἐκφυῇ τὰ φύλλα, γινώσκετε ὅτι ἐγγὺς τὸ θέρος ἐστίν· οὕτω καὶ ὑμεῖς, ὅταν ταῦτα ἴδῃτε γινόμενα, γινώσκετε ὅτι ἐγγὺς ἐστὶν ἐπὶ θύραις. Ἀμὴν λέγω ὑμῖν, ὅτι οὐ μὴ παρέλθῃ ἡ γενεὰ αὕτη, μέχρις οὗ πάντα ταῦτα γένηται. ὁ οὐρανὸς καὶ ἡ γῆ παρελεύσονται· οἱ δὲ λόγοι μου οὐ μὴ παρέλθωσι.

Περὶ δὲ τῆς ἡμέρας ἐκείνης καὶ τῆς ὥρας, οὐδεὶς οἶδεν, οὐδὲ οἱ ἄγγελοι οἱ ἐν οὐρανῷ, οὐδὲ ὁ υἱὸς, εἰ μὴ ὁ πατήρ.

Βλέπετε, ἀγρυπνεῖτε καὶ προσεύχεσθε· οὐκ οἴδατε γὰρ πότε ὁ καιρὸς ἐστίν.

(b) Comment on the question of the unity of the passage, and on the theological significance of the statement οὐδεὶς οἶδεν . . . οὐδὲ ὁ υἱός.

## Papers for Degrees in Law (LL.B. and B.L.).

### SCOTS LAW.

MONDAY, 19th March 1900.—9 to 1 o'clock.

(Only THREE questions in each group to be answered.)

#### I.

1. On what grounds may there be judicial separation of spouses: and what effect has it on (a) their property, (b) the custody of their children?

2. What is the law of succession by or to a bastard?

3. In what cases are judicial factors appointed, and by whom?

4. How may it be determined whether one legacy is accumulative or substitutionary to another?

## II.

1. How according to ancient and to modern law does a lease become a real right?

2. State the law relating to underground water.

3. What is required of possession to make it available for the positive prescription?

4. Explain privilege as a defence to an action for defamation.

## III.

1. Describe the doctrine of "risk" in the case of goods sold, both before and after the Sale of Goods Act.

2. What is negotiability, and to what documents does it apply?

3. In what cases may a life insurance policy be issued to one person on the life of another? State the law.

4. When and how may the capital of a Joint Stock Company be reduced?

## IV.

1. What are the rules of the "sixty days" in bankruptcy law?

2. In what cases is imprisonment for debt competent?

3. What is a charter party? How far is a shipowner responsible for the safety of (a) goods, and (b) passengers conveyed in his ship?

4. Describe the crime of deforcement.

# CONSTITUTIONAL LAW AND HISTORY.

## FIRST PAPER.

MONDAY, 19th March 1900.—2 to 4 P.M.

(SIX questions at most to be answered.)

1. Translate, explain, and discuss the following passages :—

(a) Reges ex nobilitate, duces ex virtute sumunt.

(b) De minoribus rebus principes consultant, de majoribus omnes.

(c) Nec regibus infinita aut libera potestas.

2. Explain the following terms—*wer*, *bôt*, *wite*, *borh*, *heriot*, *eorl*, *ceorl*, *thegn*.

3. Show that the policy of William I. (a) Maintained the individuality of the *ecclesia Anglicana*; (b) Initiated the abuses of “benefit of clergy”; (c) Saved England from the evils of feudalism.

4. Describe the chief points at issue between Henry II. and Archbishop Thomas.

5. Mention and discuss the chief constitutional clauses of Magna Carta.

6. Why did Pope Boniface VIII. publish the bull “*clericis laicos?*” What were the issues at stake between State and Church?

7. Sketch the history of “no taxation without consent of Parliament” (1309-71).

8. Why is Henry IV. said to have “reigned constitutionally”?

9. “Henry VIII. was the chief author of the English Reformation.” Discuss and refute.

10. What symptoms of growing independence are exhibited by (a) Parliament, and by (b) the Judges in Queen Elizabeth’s reign?

11. Explain and discuss the circumstances which gave rise to the Petition of Right, and state its substance.

12. What were the chief principles laid down by the Declaration of Right and the Succession Act?

13. Sketch the origins and development of Cabinet Government.

14. "George III. brought the country to the brink of ruin." Explain and discuss.

15. Explain briefly any *three* of the following topics:—

Statute of Mortmain; *Confirmatio Cartarum*; Provisors; *Præmunire*; Treason (1352-1552); Hampden's Case; Religious Tests of Charles II.'s reign; Freedom of speech in Parliament; Wilkes's Case; Religious Toleration; Parliamentary Reform.

## SECOND PAPER.

TUESDAY, 20th March 1900.—2 to 4 P.M.

(Six questions at most to be answered).

1. Describe briefly the making of the American Constitution (1787).

2. Give an outline of its main features.

3. Mention and criticise the chief peculiarities of the U.S.A. polity.

4. Sketch the constitutional history of *one* of the more important North American colonies, from the beginning of the seventeenth century to 1775.

5. Sketch briefly the history of the French Constitutions down to 1875.

6. Describe in outline the present French polity.

7. Criticise the main peculiarities of that polity.

8. Mention the chief landmarks in the constitutional history of Switzerland.

9. *Either* sketch the present Swiss form of government, *or* point out and criticise its special characteristics.

10. What is meant by the "Germanic group" of constitutions? Discuss.

11. Describe *either* the Prussian *or* the German Imperial Constitution.

12. Criticise either of the two last-named constitutions.

13. Name the chief landmarks in the constitutional history of Hungary. Wherein does its special interest consist?

14. How are the dual monarchies of Austria-Hungary governed? Explain and discuss.

## CIVIL LAW.

TUESDAY, 20th March 1900.—9 to 1 o'clock.

### A.—HISTORY.

(All Candidates are expected to answer FIVE questions in this group.)

1. Discuss the position of the kings in the early constitution.

2. Illustrate and account for the paucity of rules of *private* law in the early period.

3. "The Roman family is a circle of Agnates." Explain agnation, and trace the influence of the principle in different departments of the law.

4. Explain the purpose and working of *Usucapio* under the law of the XII. Tables.

5. State, and briefly characterise, the various "sources" of the law. Compare any modern list of law-sources.

6. Give some account of Labeo and Capito, and of the "schools" said to have been founded by them.

7. Describe the circumstances under which Justinian's *In-*

*stitutes* were compiled. From what sources was the book drawn?

### B.—INSTITUTES.

(The first question must be answered by all Candidates. Candidates for M.A. or B.L. should attempt SIX, and Candidates for LL.B. FOUR of the remaining questions.)

1. Translate and comment on the following :—

(a) Non tamen cuiusque volenti manumittere licet.

(b) Testamentum jure factum usque eo valet donec rum-  
patur irritumve fiat.

(c) Media autem jurisprudentia . . . praefatam differen-  
tiam inducebat et penitus feminas a successione  
adgnatorum repellebat.

(d) Furti autem actio ei competit cujus interest rem  
salvam esse licet dominus non sit.

2. In what ways might *patria potestas* be terminated? What were the patrimonial consequences of Emancipation?

3. What rules governed the adrogation of a person under the age of puberty?

4. Who were eligible for the office of tutor? In what cases was security required of a tutor?

5. In what cases and under what conditions was *fructuum perceptio* a title to the acquisition of property?

6. Define a *jus pignoris*. Mention the different ways in which it might be constituted, and the principal rights of the pignorate creditor in the time of Justinian.

7. Give a short account of the introduction and development of *fidei commissa*.

8. Discuss shortly any *two* of the following subjects:  
(1) innominate contracts; (2) pacts; (3) *obligatio litteris*.

9. Describe the forms which the contract of Mandate might assume, and mention its leading incidents (including rights of action).



10. Explain the purpose and the operation of any *two* of the following remedies: *Actio vi bonorum raptorum*; *Actio Publiciana*; *Actio rei uxoriae*.

C.—DIGEST XVIII. 1 AND XIX. 1.

(To be answered by Candidates for LL.B.)

1. Translate:—Sabinus respondit, si quam rem nobis fieri velimus etiam, veluti statuam vel vas aliquod seu vestem, ut nihil aliud quam pecuniam daremus, emptionem videri nec posse ullam locationem esse, ubi corpus ipsum non detur ab eo cui id fieret: aliter atque si aream darem, ubi insulam aedificares, quoniam tunc a me substantia proficiscitur.

What criterion did the jurists adopt for distinguishing between Sale and Location?

2. Translate, with any necessary explanations:—Bona fides non patitur, ut, cum emptor alicuius legis beneficio pecuniam rei venditae debere desisset antequam res ei tradatur, venditor tradere compelletur et re sua careret. Possessione autem tradita futurum est, ut rem venditor aeque amitteret, utpote cum petenti eam rem [emptor exceptionem rei venditae et traditae opponere possit nec perinde sit, quasi eam rem] petitor ei neque vendidisset neque tradidisset.

State the civil law rules as to the passing of the property in (1) the thing sold, (2) the price.

CONVEYANCING.

WEDNESDAY, 21st March 1900.—9 to 1 o'clock.

(Questions 8 and 10 must be answered, and any other TEN.)

1. Discuss the effect of a bounding description in a Charter.

2. What are the purpose and effect of a clause of absolute warrandice in a disposition of land?

3. Treat of the Instrument of Sasine historically.
4. Deal with the law and practice in regard to payment of casualties by Trustees and Corporations, before and after 1st October 1874.
5. Treat of consolidation historically. Deal with both theory and practice.
6. Treat of the completion of title by a Judicial Factor to (a) heritable, and (b) moveable property.
7. What are the present effects and uses of a Decree of General Service (a) as conferring a right on the heir, (b) as a step in completion of title, and (c) as involving responsibility?
8. Discuss the various modes in which a security over heritage for borrowed money may be given.
9. Explain and discuss the Contract of Ground Annual in its present form.
10. State the rules for interpreting destinations to a parent in liferent and his children in fee.
11. What is necessary to give children, in right of provisions under their parents' Ante-nuptial Marriage Contract (a) a *jus crediti*, and (b) a preference, as against creditors of the father.
12. Two cautioners are bound in a guarantee in the following terms: "We as cautioners guarantee you against ultimate loss on your advance of £500 to A." What rights have the cautioners in questions with the creditor and with each other?
13. Deal with the completion of the title, of a Trustee in bankruptcy, to heritable estate; and his power of sale thereof when it is burdened with a Bond and Disposition in Security.
14. What is a Writ of Acknowledgment; for what purposes may it be used; who may grant it, and in whose favour?
15. What is the positive prescription in reference to titles to lands; on what must it be founded; from what time does it commence to run; and what is meant by "suspension of prescription"?

## FORENSIC MEDICINE.

WEDNESDAY, 21st March 1900.—2 to 4 o'clock.

1. Contrast the appearances in death from Hæmorrhage and death from Cerebral Apoplexy.

2. What is the technical distinction between Abortion and Miscarriage and Premature Labour? Under what circumstances is it lawful to procure Abortion? What precaution should the medical man take under the circumstances?

3. Poisoning with Strychnia.—Is it possible to convict a person of this crime without the poison being detected by analysis in body of deceased? How is the charge successfully maintained?

4. Criminal responsibility.—What bearing on the question of criminal responsibility (say in a case of homicide) have intoxication, delirium tremens, and the fact of insanity having appeared in the accused's family, respectively?

5. What is the legal definition of insanity? How far is this satisfied in the cases of monomania, imbecility, or delirium from fever?

## GENERAL JURISPRUDENCE (PHILOSOPHY OF LAW).

THURSDAY, 22nd March 1900.—9 to 11 A.M.

*(Six questions at most to be answered.)*

1. Contrast briefly the Austinian view of the science of jurisprudence with the modern Continental view.

2. By what marks is Law formally distinguished from Morality? To which category does International Law belong?

3. Explain and illustrate the difference between a "Personal" and a "Territorial" system of Law. How did modern Law become Territorial?

4. What various significations attach to the term "Sovereignty" as a legal and political term?
5. Estimate the influence of the "Commentator" upon the development of Law. What are "books of authority"?
6. Contrast the different forms in which Law is expressed.
7. What is "the movement from Status to Contract"?
8. Explain the meaning of the rule "*ignorantia juris non excusat*." What reasons have been assigned for it? Is the rule equally acknowledged in all systems?
9. Examine the division of Law into Substantive and Adjective Law, and explain Maine's assertion that the term Adjective Law if used of very old law is apt to lead to an historical misconception.
10. Write a brief historical sketch of the Theory of the Social Compact.
11. Mention some of the chief errors and delusions which have entered into the theory of the Law of Nature.
12. Examine the Doctrine of Perfect and Imperfect Obligations.
13. Trace the right of property to its ultimate source, and indicate its limitations.

## PUBLIC INTERNATIONAL LAW.

THURSDAY, 22<sup>nd</sup> March 1900.—11.30 to 1.30 o'clock.

(*Not more than SIX questions to be answered, of which two at least should be selected from the last six.*)

1. "Grotius reared the magnificent fabric of his system upon the foundation of a double mistake." Explain.
2. Estimate the influence upon mediæval international relations of (a) The Crusades, (b) Chivalry.
3. In what circumstances do claims for Recognition present

themselves? Briefly state the conditions under which they may be granted.

4. Indicate the extent to which States are entitled to protect their subjects abroad.

5. Mention the immunities to which diplomatic agents are entitled.

6. Examine the doctrine of the equality of States in the light of the political history of the present century.

7. How are Treaties extinguished?

8. Distinguish between Mediation and Arbitration, and briefly sketch a Treaty of Arbitration.

9. Discuss the proposal that private enemy-property should be exempt from liability to capture at sea.

10. Mention the chief steps which have been taken since 1850 towards improving the laws of War.

11. Examine Lord Roberts's recent reference to President Steyn, as "the *late* President."

12. How did the doctrine of continuous voyages originate? Examine its application to the carriage of contraband.

13. To what extent is a neutral vessel liable to punishment at the hands of a belligerent for carriage of (a) despatches, (b) of persons in the service of the enemy?

## COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

*See papers under Faculty of Arts.*

## INTERNATIONAL PRIVATE LAW.

FRIDAY, 23rd March 1900.—12 to 2 o'clock.

(Not more than FIVE questions to be answered.)

1. Define the provinces of Public and Private International

Law respectively. Explain the historical relation of the latter to the doctrine of Recognition.

2. Define and illustrate the (1) *lex rei sitae*, (2) *lex loci contractus*, (3) *lex loci solutionis*.

3. State the meaning and illustrate the limits of the maxims—“*Mobilia non habent situm*,” “*Mobilia sequuntur personam*,” with regard to (a) retention or lien, (b) arrestment, (c) personal intestate succession.

4. How is domicile determined in the cases of (1) an illegitimate child, (2) a child legitimated by subsequent marriage of its parents, (3) a child adopted under the law and within the territory of a foreign state?

5. Define and illustrate (a) Naturalisation, (b) Nationality, (c) Extradition.

6. What law determines capacity to contract ordinary commercial obligations? Give reasons for your answer.

7. To what extent is an ante-nuptial marriage contract affected by the law, or laws, of the domicile, or domiciles, of the contracting parties?

8. State and illustrate the distinction between Statutes Real, and Statutes Personal.

9. How far does the *lex fori* govern (1) interpretation of the contract sued on, when made in writing in a foreign country; (2) evidence of the contract when unwritten and made in a foreign country; (3) the plea of prescription, *e.g.* the triennial prescription of Scots law; (4) the plea of discharge or extinction of the contract sued on by the operation of the law of the foreign country?

10. Two persons, both British subjects domiciled in Scotland, temporarily residing in France, marry each other during such temporary residence. What laws apply to (a) their capacity to marry, (b) the performance of the marriage ceremony, (c) the



effect of marriage, apart from contract, on the property of the spouses?

11. Define jurisdiction, and explain the meaning of the word in International Private Law.

12. How far are the judgments of foreign courts recognised and enforced by British Courts? State the general principle.

13. How far is the possession of moveable and immoveable property within the territory, regarded as a valid ground for the exercise of jurisdiction by the Courts of Scotland and England respectively?

14. A domiciled Englishman is the tenant of land in Scotland for the rent of which he is sued by his landlord in the Court of Session. At the time, he is resident in England, and he does not appear to defend the action. Can the decree in absence be enforced against him in England, and if so, how?

## PROCEDURE AND EVIDENCE.

FRIDAY, 3rd November 1899.—2.30 to 4.30 o'clock.

1. What is meant by the *nobile officium* of the Court of Session? How and in what cases is it exercised?

2. What is arrestment to found jurisdiction? How is it executed? What subjects may be arrested? What is its effect upon the property attached?

3. To what extent have the civil courts jurisdiction in ecclesiastical causes?

4. When may a married woman sue without consent of her husband?

5. How may a new trial by jury be obtained and upon what grounds?

6. In what cases is it competent to take proof by commission in the Court of Session?

7. What interlocutors of the Sheriff-Substitute in the

ordinary court are appealable to the Sheriff? How and within what time must appeal be taken?

8. How and upon what grounds may a judgment in the Small Debt Court be brought under review?

9. What is hearsay evidence, and when is it admissible?

10. What principles regulate the incidence of the burden of proof?

## Examination Papers for Degrees of M.B. and CH.B.

### FIRST PROFESSIONAL EXAMINATION.

### CHEMISTRY.

MONDAY, 17th July 1899.—10 to 12 o'clock.

N.B.—*Express your meaning in words, and also by means of equations whenever possible.*

1. A process similar to that usually employed in preparing hydrochloric acid gas is not suitable for the preparation of hydriodic acid gas. What is the reason for this? How would you prepare hydriodic acid gas?

2. How is sulphuric anhydride prepared? What is the action of sulphuric anhydride on—(a) Water; (b) Sulphuric acid; (c) Hydrochloric acid gas?

3. Describe and explain what happens when aqueous solutions of silver nitrate and sodium thiosulphate are mixed—(a) when there is an excess of silver nitrate; (b) when there is an excess of sodium thiosulphate.

4. How is aldehyde prepared? Describe shortly the most important chemical properties of aldehyde.

5. What volume (in litres) of hydrogen measured at 18° C.

and 750 mm. pressure would be produced by the action of 20 grammes of sodium on water? Carry the calculation to two figures after the decimal point.

( $H=1$ ,  $Na=23$ , 2 grammes of hydrogen occupy, at  $0^{\circ}C$ . and 760 mm. 22.33 litres).

MONDAY, 26th March 1900.—10 to 12 o'clock.

N.B.—*Express your meaning in words, and also by means of equations whenever possible.*

1. Describe the preparation and properties of (a) Potassium carbonate, (b) Sodium bicarbonate, (c) Sodium thiosulphate, (d) Sodium chromate.

2. What is the action of Sulphuretted hydrogen on each of the following in aqueous solution:—(a) Caustic potash, (b) Ammonia, (c) Ferric chloride, (d) Mercuric chloride, (e) Arsenious acid?

3. Describe fully the various actions on alcohol of (a) Nitric acid, (b) Sulphuric acid, and state under what conditions each action takes place.

4. What is the action of caustic potash upon (a) Ethyl acetate, (b) Chloroform, (c) Acetonitrile, (d) Acetamide, (e) Phenol?

5. What takes place when Sulphurous anhydride gas is passed into an aqueous solution of Potassium bichromate to which Sulphuric acid has been added? What volume of Sulphurous anhydride gas (at normal temperature and pressure) is necessary to reduce completely 100 grams of Potassium bichromate dissolved in water and mixed with the necessary quantity of Sulphuric acid? Give the result in litres, and carry the calculation to one figure after the decimal point.

( $O=16$ ,  $K=39$ ,  $S=32$ ,  $Cr=52$ ).

## PHYSICS.

MONDAY, 17th July 1899.—1 to 3 o'clock.

(FOUR questions only to be attempted.)

1. Give Newton's Laws of Motion; pointing out the two modes of interpreting the Third, and their bearing on the Conservation (a) of Momentum, (b) of Energy.

2. State the Laws of Simple Reflection, and apply them to find the principal focus of a concave mirror.

Show, with the help of a diagram, how by such a mirror to obtain an erect magnified image.

3. Enunciate Boyle's Law, and point out why it gives too small a result when it is employed to find the speed of sound. How did Newton attempt to remove the difficulty?

4. If a voltaic battery drive a current through a voltameter and its connecting wires, what quantities determine the current, and how do they do so?

How would you calculate the energy produced and absorbed in the various parts of the circuit?

5. What is meant by Latent Heat, and what by Specific Heat?

How many units of heat are required to change a pound of ice at  $-40^{\circ}$  C. into saturated steam at  $100^{\circ}$ , and how are they distributed among the various steps of the process?

6. State fully, with examples, the facts connected with Induction in (1) Electrostatics; (2) Magnetism; (3) Magneto-Electricity.

MONDAY, 26th March 1900.—1 to 3 o'clock.

(FOUR Questions only to be attempted.)

1. Explain precisely what is meant by the pressure at a point in a fluid at rest. Illustrate by reference to the mercurial

barometer and the Bramah or hydraulic press, describing carefully the function of each.

2. A quantity of air, saturated with water vapour at ordinary temperature and pressure, is allowed suddenly to expand—for example, by exhaustion in an air-pump receiver. Discuss the changes which take place in temperature and molecular state, and mention the general principles of which these changes are particular cases.

3. Describe carefully the motion of a particle of the medium in wave-motion—

- (1) for waves at sea,
- (2) for a violin string,
- (3) for sound in air,
- (4) for light.

On what does the speed of the waves, in these respective cases, chiefly depend?

4. Give the laws of simple refraction of light, and draw a figure showing the course of a ray by which an object under water is seen by an eye outside.

By means of a diagram show how to place an object relatively to a convex lens, so that it and the image may be of the same size.

5. An electric current is being maintained in a given circuit by means of a voltaic cell. Upon what quantities does the strength of the current depend, what supplies the energy of the current, and what are the changes, thermal and material, which accompany its flow?

6. Give the principal facts of the induction of electric currents by currents.

Describe the main features of an induction coil, and show how it is used in producing an electrical discharge through a vacuum tube. State briefly the general character of the discharge.

## ELEMENTARY ZOOLOGY.

TUESDAY, 18th July 1899.—10 to 12 o'clock.

1. Mention several of the forms assumed by members of the Hydrozoa group, and point out how a Hydrozoon essentially differs from a Protozoon.

2. Mention any simple generalized Ungulate, and point out how a sheep differs from it.

3. What provision is made for the nutrition of the embryo in *Scyllium*, *Rana*, *Gallus*, and *Lepus*?

4. What are "vestigial organs," and how do you account for their presence?

Illustrate your answer by reference to any three organs of the kind.

*One of the following—*

5. What bones would you expect to find in a typical pentadactylous fore-limb? Describe the fore-limb of any three vertebrates.

6. Classify the following genera as fully as you can, giving reasons in all cases:—*Paramœcium*, *Hydra*, *Arenicola*, *Anodon*, *Helix*, *Nephrops*, *Periplaneta* (*Blatta*).

TUESDAY, 27th March 1900.—10 to 12 o'clock.

1. Compare and contrast the circulatory organs and course of the circulation in a Snail, a Fish, and an Amphibian. Explain in each case where the blood gets rid of (a) carbon dioxide, (b) nitrogenous waste.

2. Give a short account of the Edentata, referring especially to the dentition, habits, and distribution.

3. How are the embryos of *Scyllium*, *Rana*, *Gallus*, and *Lepus* protected during development? In the case of *Gallus* state how the protecting structures are formed.



4. Answer *one* of the following :—

(a) Point out the specialisation which exists in relation to habit in any three of the following cases :

- (a) Skull of Crocodile in relation to breathing ;
- (b) Stomach of Sheep in relation to mode of feeding ;
- (c) Limbs of Kangaroo in relation to mode of progression ;
- (d) Tail of Pigeon in relation to flying.

(b) What various functions are performed by the appendages of Nephrops? What is the common plan on which these appendages are constructed? In what various ways do they deviate from it?

## ELEMENTARY BOTANY.

TUESDAY, 18th July 1899.—1 to 3 o'clock.

[Only **FOUR** Questions to be answered.]

*Illustrate your answers by Drawings.*

1. Contrast the structure of the flower in an Orchid and in a Grass with that of the flower in a Lily.

2. By what distinctive characters are Filicineae separated from Flowering Plants?

3. Whence does a tree get the water it requires? Describe the structure of the parts concerned in absorption of water and also the method of absorption.

4. Describe six different modifications of the leaf for special purposes. Give an example of each, and show how it is adapted to its purpose.

5. Compare the arrangement of the conducting tissues in the primary stem of a flowering plant with the arrangement of similar tissues in the root. What reasons can you give for the differences observable?

TUESDAY, 27th March 1900.—1 to 3 P.M.

FOUR Questions only to be attempted.

*Illustrate your answers by Drawings.*

1. Compare the flowers of any Gymnosperm with those of an Angiosperm, and note the essential differences between them.
2. Give an account of the phenomena of respiration in plants.
3. Contrast the structure of the apex of a shoot with that of the apex of a root. What explanation can you give of the differences between them?
4. Describe mitosis and cell-division.
5. Describe the fruits in the Ranunculaceæ and the Cruciferae.

SECOND PROFESSIONAL EXAMINATION.

ANATOMY.

THURSDAY, 20th July 1899.—10 to 12 o'clock.

1. Describe the dissection necessary to expose the trunk of the Facial Nerve after its exit from the stylo-mastoid foramen, and trace the branches which arise from it to their respective distributions.

2. Describe the position, relations, and arrangement of the Pericardium, and give an account of its microscopic structure.

3. Write a systematic description of the Anterior Tibial Artery. Name its branches in order of their origin.

4. State the Nerve-supply to the Muscles in the Fore Arm and Hand.

WEDNESDAY, 28th March 1900.—10 to 12 o'clock.

1. The abdominal cavity having been opened and the viscera removed, give the dissection required to expose the Lumbar

Plexus. Describe the formation of the plexus, and give the origin, course, and relations of its branches within the abdomen.

2. Describe the shape, position, and relations of the transverse commissures of the Cerebrum.

3. Give the origin, course, and termination of the Subcutaneous Veins of the Lower Limb. Contrast the structure of a Vein with that of an Artery.

4. Give the origin, course, and termination of the Axillary Artery. What dissection is required to expose its entire length? Name its branches in their order of origin.

## PHYSIOLOGY.

THURSDAY, 20th July 1899.—1 to 3 o'clock.

*Only THREE Questions to be answered.*

1. (a) Describe the minute structure of a sweat gland.

(b) How is the secretion of sweat brought about, and (c) what is its relation to the body temperature?

2. (a) What is the structure of the ganglion on the Dorsal root of a Spinal nerve?

(b) How have the trophic centres of the fibres of an ordinary mixed nerve been localised?

3. (a) How is a long bone developed.

(b) What are the essential differences between intracartilaginous and intramembranous ossification?

4. (a) Depict the curve drawn by a muscle during a simple contraction upon a revolving cylinder.

(b) What events are to be recognised in such a tracing; how are they affected by fatigue, changes in temperature, and drugs?

WEDNESDAY, 28th March 1900.—1 to 3 o'clock.

1. Give an account of the composition of gastric juice and its action on proteids. How is the flow of juice influenced through the nervous system? What is the structure of the glands of the fundus?

2. Describe the structure of the retina. How does the macula lutea differ from the rest of the retina?

What are the paths of connexion between the left eye and the parts of the brain associated with vision? (Illustrate this if possible by a diagram.)

3. What are the chemical and physical characters of hæmoglobin? With what gases does it combine, and how are those combinations with gases severally recognised?

4. What is a reflex movement? Give two illustrations of reflex movements, stating in each case the afferent and efferent path and the part of the central nervous system involved.

What reason is there for the opinion that the so-called "tendon-reflexes," such as the knee-jerk, are not true reflex movements, although dependent upon the integrity of the reflex arc?

## MATERIA MEDICA.

FRIDAY, 21st July 1899.—10 to 12 o'clock.

1. Describe the action and uses of *Sulphur*. State the doses for each therapeutic use.

2. Name three scale preparations of *Iron*. In what form is Iron absorbed? What preparations of Iron would you prescribe with Liquor Arsenicals, and with what vegetable infusions would you prescribe Iron?

3. Define *Butyl-Chloral Hydrate*. Describe its appearance, and state its comparative solubility in water, alcohol, and glycerine. What are its therapeutic uses and doses?

4. Describe the action of *Eucalyptus Oil*. From what, and how is it prepared?

5. What *Anthelmintics* would you administer to patients suffering (a) from tape-worms, (b) from round-worms and (c) from thread-worms? What are the chief precautions required to ensure success in the administration of anthelmintics by the mouth?

THURSDAY, 29th March 1900.—10 to 12 o'clock.

1. How is *Dilute Hydrocyanic Acid* prepared? Describe its action and therapeutic uses. What are its doses?

2. Describe the therapeutic effects of *Potassium Citrate*, distinguishing the effects produced by different doses. What change is produced by it on the blood, and how is it explained?

3. Give a full account of the effects produced on the functions of the Alimentary Canal by a full medicinal dose of each of the following:—(1) *Zinc Sulphate*, (2) *Magnesium Sulphate*, (3) *Sulphur*, (4) *Elatarium*.

4. What is the botanical source of *Hyoscyamine*? What salt of it is official, and what are its doses? What is its action on the brain, spinal cord, circulation, and eye?

5. What is *Ergot*? Name its most important constituents. Describe its therapeutic applications. What are its liquid preparations and what are their doses?

### THIRD PROFESSIONAL EXAMINATION.

#### PATHOLOGY.

TUESDAY, 25th July 1899.—10 to 12 o'clock.

1. *Inflammation*.—Describe the principal phenomena of Inflammation. State which of them you regard as essential to the

process ; and discuss the causes of these, so far as they are known.

2. *Leprosy, Plague, Tetanus.*—(a) Describe the micro-organisms of each of these diseases. (b) State the organs and tissues in which they may especially be found, and how they may be demonstrated in them. (c) What evidence have we as to each of its causal relation to the disease ?

3. *Waxy Kidney.*—Describe the naked eye and microscopic characters of the various forms of waxy or lardaceous kidney. To what are the varieties in character due ?

4. *Dysentery.*—Give an account of the anatomical lesions met with in the more important forms of this disease, and discuss its etiology.

FRIDAY, 30th March 1900.—10 to 12 o'clock.

1. Give an account of the characters and life-history of the *Staphylococcus Pyogenes Aureus*. Describe the principal changes which might be produced by the injection of a culture of the organism into the peritoneal cavity.

2. Give a short account of the life-history of the Malaria parasite.

3. Caries of the ninth and tenth dorsal vertebrae. Describe (a) the minute structural changes in the bones, (b) the changes in the Spinal membranes and cord which may result from extension of the disease.

4. Enumerate the diseases of the Lungs which may be caused by the inhalation of dust. Briefly describe any one of them.

## MEDICAL JURISPRUDENCE.

TUESDAY, 25th July 1899.—1 to 2 o'clock.

1. A full-grown Male is found dead and extensively burned.



What appearances, on dissection, would justify you in certifying that the death was due to burning?

(a)—and that, in all probability the condition of the body had contributed to the death.

2. Under what circumstances might Respiration occur during delivery and yet the child be still-born? How does such a case affect a charge of Infanticide?

3. How would you distinguish between Arsenic and Antimony by Marsh's process?

FRIDAY, 30th March 1900.—1 to 2 o'clock.

1. A husband and wife live on bad terms and she is much given to drink. He arrives from a journey on Saturday night and next morning at 8 the wife, aet. 45, is found dead in bed with several suspicious marks of bruising on face and limbs. Noises of quarrelling in the house had been heard by the neighbours early in the night. The husband was apprehended. How would you conduct the post-mortem examination, and what evidence might it afford which would justify you in advising that the husband should be liberated?

2. What is Tartar Emetic? Mention (a) its synonyms; (b) its physiological action; (c) poisonous dose; (d) usual post-mortem appearances; (e) appropriate treatment; (f) three tests for it in solution.

3. An adult male is charged by the Police with riotous conduct in the public streets, and the odour of alcohol is perceptible in his breath. He is suspected of being insane. What symptoms would lead you to decide that, in all probability, the case was one of Acute Alcoholism, and what information would you demand from friends, or otherwise, to strengthen your opinion?

## PUBLIC HEALTH.

TUESDAY, 25th July 1899.—2 to 3 o'clock.

I.—*Notification of Infectious Disease.*

(a) What diseases are notifiable by law to the local health authority?

(b) What is the object of notification, and what beneficial results are likely to follow it?

II.—*Excrement Disposal.*

What method of excrement disposal would you recommend for adoption in—

(a) A large city?

(b) A small village?

(c) A country mansion?

Give in each case your reasons for giving a preference to one method over another.

III.—*Potable Water.*

Distinguish between permanent and temporary hardness, and state in each case to what it is due.

FRIDAY, 30th March 1900.—2 to 3 o'clock.

I.—*Ventilation.*

1. Describe what is meant by *Natural* and *Mechanical* means of ventilation, and give an example of each.

2. Compare the *plenum* and *vacuum* methods of ventilation, and discuss their relative merits.

II.—*Contamination of Drinking-Water.*

In what ways may drinking-water become specifically contaminated?

What is the value for detecting such contamination of  
(1) chemical analysis, (2) bacteriological examination?

III. State the incubation in—

Measles.	Enteric Fever.	Small Pox.
Mumps.	Scarlet Fever.	Diphtheria.
Typhus Fever.	Whooping Cough.	

# FINAL PROFESSIONAL EXAMINATION.

## MEDICINE.

MONDAY, 19th June 1899.—10 A.M. to 12 NOON.

(Only THREE Questions to be answered.)

I. *Ascites*. Give—

- (1) Its causes.
- (2) Its Clinical features.
- (3) Its diagnosis from conditions with which it may be confounded.
- (4) Its treatment (including two prescriptions).

II. *Graves' Disease* (Exophthalmic Goitre).

- (1) Describe and explain its Clinical features.
- (2) Discuss its Pathogenesis.
- (3) Indicate its treatment (giving two prescriptions).

III. *Phthisis pulmonalis*. Give—

- (1) An outline of the morbid Anatomy of its principal varieties.
- (2) The Clinical history of any one of these.

IV. *Apoplexy*.

- (1) Enumerate the pathological conditions to which it may be due.
- (2) Give the morbid Anatomy of any one of these conditions.

(3) The symptoms proper to each variety.

(4) The general treatment of the condition whose morbid Anatomy you have described.

## MIDWIFERY.

MONDAY, 19th June 1899.—1 to 3 P.M.

(After answering QUESTION I. the Candidate will answer any TWO of the three Obstetric questions.)

### I.—*Salpingitis.*

1. What are the causes?
2. Describe the course and possible consequences.
3. Give the symptoms and diagnosis.
4. State briefly the line of treatment that may be required.

II. Describe the changes that take place in the Uterus during Pregnancy, as regards:—

1. Its size and situation.
2. Its shape.
3. Its consistence.
4. The structure of its middle coat.

### III.—*Podalic Version.*

1. Give indications for the operation.
2. Describe the steps of the operation.
3. Indicate the dangers of delivery by version, (a) to mother, (b) to child.

### IV.—*The Third Stage of Labour.*

1. Give the mechanism.
2. Indicate causes of delay.
3. Indicate the attendant dangers.
4. Give the management.

## SURGERY.

TUESDAY, 20th June 1899.—10 A.M. to 12 NOON.

(Only THREE questions to be answered.)

**I.** Name four injuries which may arise from a fall on the shoulder. Describe the appearances and give shortly the treatment of each injury.

**II.** *Abscess of the Kidney*—

1. Symptoms.                      2. Causes.

3. State the methods by which you would diagnose which kidney was affected.                      4. Treatment.

**III.** To what morbid conditions is the great toe and its metatarsophalangeal articulation liable? State the appearances and treatment of each condition.

**IV.** *Necrosis of the Lower Jaw*—

1. Symptoms.                      2. Causes.                      3. Treatment.

## CLINICAL MEDICINE.

Examinations, written, oral and practical, on cases in wards of the Royal Infirmary.

## CLINICAL SURGERY.

Examinations, written and oral, on the Symptoms, Diagnosis, and treatment of Surgical Cases in the wards of the Royal Infirmary.

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## Papers for Degrees in Music.

(See specimen papers in Calendar for 1899-1900 and in previous Calendars.)

# New Foundation.

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## THE BLACKIE CELTIC PRIZE.

1. The Prize which has been founded by Highlanders to commemorate the late Professor John Stuart Blackie's services in promoting the study of the Celtic Language and Literature shall be called the Blackie Celtic Prize.

2. The Funds subscribed for the said Prize shall be invested in one or more of the investments approved by the Court of Session for Trust Investments, in the names of the present Trustees until Whitsunday 1903 and thereafter in the names of the Principal, the Professor of Celtic and the Professor of Greek in the University of Edinburgh as Trustees.

3. The interest of the said Fund shall be accumulated for three years and form the amount of the said Prize which shall be open to competition every third year.

4. Any matriculated student or graduate of any Scottish University within six years of graduation under the age of thirty years may be a candidate for the said Prize which shall be awarded after examination in the Gaelic Language and Literature, and if the examiners shall think fit, also in any other branch of the Celtic Language, by the Professor of Celtic in the University of Edinburgh, with the assistance of some competent Celtic scholar, to be selected by the Trustees.

5. The Examiners shall report to the Trustees the name of the candidate who passes the best examination if he is in their opinion qualified to hold the Prize, but it shall be in their power to report that no candidate has passed a sufficiently good examination to be in their opinion qualified for holding the Prize.

6. The Trustees in the event of the examiners reporting the name of a candidate qualified to hold the Prize shall award it to such candidate subject to the conditions in the following article.

7. The successful candidate is (1) to receive payment of the first half of the Prize when the award is made ; (2) to undertake to pursue the study of Gaelic or Celtic within a period of six months in the year



following the award of the Prize in a British or Foreign University where Gaelic or Celtic is taught, or in a district where some branch of the Celtic language is spoken or such place approved of by the Trustees where there are facilities for studying Celtic MSS.; (3) to present to the Trustees at the close of the said six months a report on the result of his studies; (4) after consideration of such Report if the Trustees are satisfied as to the progress made they shall be entitled to pay the second half of the Prize, but if they are not so satisfied they shall be entitled to withhold payment.

8. In the event of the money for the Prize or any part of it not being expended it shall be added to the capital of the fund. It shall be competent to the Trustees to make a payment of not more than £2, 2s. to the assistant examiner.

9. The first competition under these rules shall be held in October 1901. In the event of the Prize not being awarded, at the first or any subsequent competition it shall be thrown open to competition in the following year at or about the same date.

10. The above rules may be modified or varied by not less than a majority of the Trustees.

## Benefactors of the University.

THE Revenues of the University were formerly scanty and very inadequate for the encouragement of the higher education and learning in the Scottish metropolis. Scholarships and Fellowships were unknown prior to those recently instituted, and the emoluments of several of the Chairs are still greatly inferior to those in many other Universities.

During the early period of its history, the University received a considerable number of small donations and bequests, chiefly for Bursaries. Notices of these will be found in the preceding pages, in the Histories of the University by Bower, Dalziel, and Grant, and in the Report of the Universities' Commissioners in 1830. A list of early Benefactors to the Library is given at p. 41.

By Act 1 & 2 Vict., cap. 55, the various sums of money mortified in the hands of the Town Council for the support of the University, amounting to £13,119, were discharged, and an annual payment of £2500 (since reduced to £2170), secured in terms of "The Edinburgh Corporation Stock Act, 1894," over the Common Good of the City, &c.

Within this century, but especially since 1860, many donations and bequests have been made by Benefactors of the University for the foundation of Fellowships, Scholarships, and Bursaries, for the endowment of Chairs, and for the erection of the New Buildings, including the "M'Ewan Hall," and the "Sir John Usher Institute of Public Health." As the University is still very inadequately endowed, much requires to be done that it may not fall behind the requirements of the age. Intending Benefactors are respectfully reminded that additional CHAIRS, LECTURESHIPS, LABORATORY EQUIPMENTS, LIBRARY ENDOWMENTS, SCHOLARSHIPS, BURSARIES, and FUNDS for RESEARCH, for GENERAL MAINTENANCE, and for BUILDING, are urgently required.

1. The most pressing wants of the Library (which now contains about 208,000 printed volumes, and about 7500 MSS., many of which are of great value) are :—(a) A fire-proof room in which to store the rare and valuable books of the fifteenth and sixteenth centuries, and the MSS. which are often consulted by scholars and authors from all parts. (b) A fund for the purchase of scientific and literary journals and of larger works of reference. These at present absorb 47 per cent. of the total sum available for all purchases for the Library, so that only about £670 is left for the purchase of new books. Under this head £25,000 at least are required. (c) Extensive structural alterations and new book-cases, which will cost at least £5000. The congestion which has arisen from the want of sufficient and safe accommodation for the Books and MSS. occasions much labour and inconvenience, and if the necessary improvements are not very soon accomplished, will make the efficient working of the Library a matter of serious difficulty. The only alternative, and far more desirable plan, would be the erection of a new suitable building for the Library by the gift of some benefactor.

2. The establishment of the Physical Laboratory, again, cannot much longer be delayed. Its construction and equipment will be a large undertaking, but the task must soon be faced if the scientific reputation of the University is to be maintained.

The names of Benefactors, if so desired, may be connected with the Benefactions they bestow. Such Benefactions may simply be conveyed to the "University of Edinburgh." All necessary information will be gladly afforded by the Secretary of the University Court, the Secretary of Senatus, the Deans of the Faculties, or the University Librarian.

The following list includes the chief Benefactors of the present century, together with the purposes of their benefactions<sup>1</sup> :—

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<sup>1</sup> An Association exists for the purpose of keeping the Public informed regarding the existing insufficiency of the Endowments of the University of Edinburgh, collecting funds, and appropriating them to the further extension and better endowment of the University, and to other purposes tending to promote the efficiency of the University as a seat of learning.

The Chancellor of the University is President of this Association; the Hon. Secretary is Sir Alexander Christison, Bart.; and the Secretary is Robert G. Scott, Esq., W.S., 6 Hill Street, Edinburgh.

*(A.)—Founders of Bursaries in the present Century.*

Rev. J. STUART, South Carolina—Founder of the Stuart Bursaries.

Sir JOHN M'PHERSON, late Governor-General of India—Founder of the M'Pherson Bursary (now the Macpherson Scholarship).

Rev. R. BLAIR, D.D.—Founder of the Blair Bursaries in Arts and Theology.

J. STEWART HEPBURN, Esq. of Colquhalzie—Founder of three Theological Bursaries.

JOHN JAMIESON, Esq., Edinburgh—Founder of the Jamieson Bursary.

GEORGE PARKER BIDDER, Esq.—Founder of the Jardine Bursary.

WILLIAM LENNIE, Esq., Teacher, Edinburgh—Founder of the Lennie Bursaries.

JOHN BRUCE, Esq., Trinity Crescent, Edinburgh—Founder of the Bruce Bursaries.

M'DIARMID TESTIMONIAL TRUSTEES—Founders of the M'Diarmid Bursary.

W. PATRICK, Esq. of Roughwood—Founder of the Patrick Bursaries.

JAMES GRAY, Esq. of Baadpark—Founder of the Gray Scholarship.

EDINBURGH CAITHNESS ASSOCIATION—Founders of a Bursary.

EDINBURGH GALLOWAY ASSOCIATION—Founders of a Bursary.

AYRSHIRE CLUB—Founders of two Bursaries.

PEEBLESSHIRE SOCIETY—Founders of a Bursary.

Dr ABERCROMBIE, Cape Town—Founder of a Bursary.

Mrs MARGT. TYNDALL BRUCE of Falkland—Founder of Bursaries.

TRUSTEES of FRANCIS J. SCOTT, Esq. of Mount Lodge, Portobello—Founders of two Bursaries.

Miss HANNAH HARRISON of Lasswade—Founder of a Bursary.

Miss MARY ETTLES of Inverness—Founder of three Bursaries, and the "Ettles Medical Scholarship."

TRUSTEES of the Rev. JOHN SPENCE, Minister of Kinnaird—Founders of two Bursaries.

JOHN ROBERTSON SIBBALD, M.D.—Founder of Five Bursaries.

ARGYLLSHIRE, BUTE, and WESTERN ISLES ASSOCIATIONS—Founders of a Bursary.

SUBSCRIBERS to MEMORIAL to ROBERT STEWART, Esq. of Ardvorlich—Founders of a Bursary.

THE EDINBURGH BORDER COUNTIES ASSOCIATION—Founders of two Bursaries.

THE RIGHT HON. THOMAS, EARL OF ZETLAND—Founder of the Orkney and Zetland Bursary.

TRUSTEES of JAMES GRIERSON, OF OGSCASTLE—Founders of the Grierson Bursaries.

- TRUSTEES OF Dr MACKIE, Leith—Founders of Mackie Bursaries.
- TRUSTEES OF J. CAIRNS, Esq., W.S.—Founders of the Cairns Bursary.
- TRUSTEES OF Mrs JOHNSTONE of Harthope, Moffat—Founders of the Johnstone of Harthope Bursary,
- TRUSTEES OF JAMES LAMBERT, Esq., Alloa—Founders of the Lambert Bursary.
- ROBERT MARSHALL, Esq., Merchant, Edinburgh—Founder of the Marshall Bursary.
- JOHN FOTHRINGHAM, Esq. of Heathpool—Founder of the Fotheringham and Forrest Bursaries.
- Right Hon. LAWRENCE, EARL OF ZETLAND—Founder of the Zetland Bursaries.
- ANDREW THOMSON, M.D.—Founder of Eight Bursaries in Arts, Divinity, Law, and Medicine.
- EDINBURGH EAST LOTHIAN ASSOCIATION—Founders of a Bursary in Arts.
- EDINBURGH UNIVERSITY ENDOWMENT ASSOCIATION—Donors of Bursaries in Arts.—Discontinued.
- Mrs ISABELLA WEBSTER—Founder of the Webster Bursaries in Divinity.
- Dr JOHN AITKEN CARLYLE—Founder of two Bursaries in the Faculty of Medicine.
- Mrs ELIZABETH MACKENZIE—Founder of the Mackenzie Bursaries.
- TRUSTEES OF Mrs BARBARA MACAULAY OR MYLNE—Founders of a Bursary in Divinity.
- TRUSTEES OF Rev. JOHN PATTERSON—Founders of a Bursary in Anglo-Saxon Grammar and Literature.
- THOMAS CARLYLE—Founder of the John Welsh Bursaries in Mathematics and Classics.
- Mrs HELEN ANDERSON or RONALD, Liverpool—Founder of the Anderson Bursaries.
- SUBSCRIBERS to Testimonial to W. MACKINNON, Esq. of Balinakill—Founders of the Mackinnon Bursaries.
- TRUSTEES OF JAMES WHITELAW—Founders of Whitelaw Bursaries.
- TRUSTEES OF WILLIAM RENTON, Esq.—Founders of a Bursary in Divinity, and one in Arts.
- Miss ISABELLA MACDOUGALL, Perth—Founder of the John and Isabella Macdougall Bursaries.
- ROBERT HUNTER, Esq., Dalhousie Chesters—Founder of two Bursaries in Divinity.
- ROBERT PILLANS NEWTON of Castlandhill and Drumcross—Founder of the Newton Bursaries.

PETER CAMPBELL MANN of Seaham Harbour, Durham—Founder of the Mann Bursaries.

CHARLES JARDINE of Thorlieshope—Founder of Bursaries in Arts.

ISAAC ANDERSON HENRY—Founder of the Anderson Henry Prize.

Mrs H. E. MORISON—Founder of the Mackenzie (Stornoway) Bursary.

DANIEL MACLAURIN, Esq.—Founder of the Maclaurin Bursary.

THOMAS LOCKERBY, Esq.—Founder of the Lockerby Bursary.

GEORGE COUSIN, Esq.—Founder of the "Baillie Cousin Bursary."

THOMAS HILL PATTISON, M.D.—Founder of the Pattison Prize in Clinical Surgery.

Major ROBERT ORR CRICHTON of Lynn—Founder of the Crichton Bursaries in the Faculty of Medicine.

Rev. THOMAS MAULE—Founder of Maule's Bursaries.

Mrs A. B. R. MILNER FOTHERGILL of Hayton Quarry—Founder of the Milner Fothergill Gold Medal in Therapeutics.

DONALD FRASER, M.D., London, and ASSOCIATION for the BETTER ENDOWMENT of the UNIVERSITY—Founders of the Donald Fraser Bursary in Experimental Physics.

SUBSCRIBERS TO MEMORIAL TO PROFESSOR KELLAND—Founders of the Kelland Memorial Prize.

GOVERNORS OF GEORGE HERIOT'S TRUST—Founders of Bursaries in Arts, Science, and Medicine.

Dr THOMAS CHARLES HOPE, late Professor of Chemistry—Founder of the Hope Prize (now two Hope Scholarships).

Mrs MARGARET TYNDALL BRUCE—Founder of Prize in Logic Class.

DANIEL ELLIS, Esq.—Founder of "The Ellis Prize" in the Faculty of Medicine.

JOHN EDWARD BAXTER, Esq., of Craigtay, bequeathed the reversion of his Estate for the purpose of founding Scholarships, etc.

Dr NEIL ARNOTT gave £1000 for Promoting the Study of Experimental Physics among the Medical Students of the University.

Rev. HEW SCOTT of Wester Anstruther—Founder of the Scott and Dunbar Prize in Greek.

JOHN WILSON, Esq. of South Bantaskine—Founder of the Robert Wilson Prize in Chemistry.

Mrs E. WIGHTMAN—Founder of the Wightman Prize in Clinical Medicine.

JAMES GEORGE BEANEY, Esq.—Founder of the Beaney Prize.

ANDREW ROBERTSON CAMERON, M.D., of Richmond, New South Wales—Founder of the Cameron Prize.



JOHN M'COSH, M.D.—Founder of the M'Cosh Graduate's Bursary in Medicine.

Miss JANE MARIA M'MASTER, Edinburgh—Founder of the M'Cosh Medical Bursary.

(B.)—*Founders of Scholarships or Fellowships in the present Century.*

THE PITT CLUB—Founders of two Scholarships, one in Arts and one in Divinity.

JAMES MACKENZIE, Esq., W.S.—Founder of Mackenzie Scholarship.

ALEX. HENRY RHIND, Esq. of Sibster—Founder of the Rhind Scholarships and Bursaries.

Sir DAVID BAXTER, Bart., of Kilmaron—Founder of the Baxter Scholarships in Arts and Science.

Sir WILLIAM FETTES, Bart.—Founder of the Fettes Exhibitions.

JOHN MAXTON, Esq.—Founder of a Divinity Scholarship.

Miss ELIZABETH DRUMMOND—Founder of the Drummond Scholarship.

Mrs MARGARET TYNDALL BRUCE—Founder of three Scholarships.

JAMES GUTHRIE, Esq., of London—Founder of the Guthrie Fellowship.

SUBSCRIBERS to HAMILTON MEMORIAL FUND, and ASSOCIATION for the BETTER ENDOWMENT of the UNIVERSITY—Founders of a Philosophical Fellowship.

ASSOCIATION for the BETTER ENDOWMENT of the UNIVERSITY—Founders of a Classical Fellowship.

TRUSTEES of Dr J. H. GILCHRIST—Founders of three Scholarships for Natives of India.

JOHN ROBERTSON SIBBALD, M.D.—Founder of a Medical Scholarship.

Miss MARY BAXTER, of Balgavies—Founder of Scholarships.

SUBSCRIBERS to FALCONER MEMORIAL FUND—Founders of a Fellowship.

SUBSCRIBERS to SYME FELLOWSHIP—Founders of a Fellowship in the Medical Faculty.

SUBSCRIBERS to GOODSIR MEMORIAL FUND—Founders of a Fellowship in the Medical Faculty.

Rev. JOSEPH TAYLOR GOODSIR bequeathed £900 to Supplement the Goodsir Memorial Fund.

ROBERT A. GOODSIR, M.D., Edinburgh, bequeathed residue of his Estate, amounting to about £2000, to supplement the Goodsir Memorial Fund.

TRUSTEES of Mrs CHARLES MACLAREN—Founders of the Charles MacLaren Scholarship.

SUBSCRIBERS to GLOVER MEMORIAL FUND, and ASSOCIATION for the BETTER ENDOWMENT of the UNIVERSITY—Founders of the "Glover Divinity Scholarship."

- Mrs M. ARNOTT, Widow of NEIL ARNOTT, M.D.—Founder of the “Neil Arnott Scholarship for Experimental Physics.”
- JOHN EDWARD BAXTER, Esq. of Craigtay, bequeathed the residue of his estate, out of which three Scholarships named after him have been founded by the University Endowment Association.
- The Rev. DAVID AITKEN, D.D., formerly Minister of Minto—Founder of the Aitken Scholarship.
- DAVID SKIRVING, Esq., of 13 Westbourne Park, London—Founder of the Skirving Scholarship for Moral Philosophy.
- ANDREW THOMSON, M.D.—Founder of a Scholarship.
- Misses KIDD of Woodhouse—Founders of the David Kidd Divinity Scholarship.
- Dr R. H. GUNNING of Rio Janeiro—Founder of ten Prizes in the Faculty of Divinity, and of eleven Prizes in the Faculty of Medicine
- Dr T. LECKIE—Founder of the Leckie-Mactier Scholarship.
- SUBSCRIBERS TO MEMORIAL OF Dr COLDSTREAM—Founders of the Coldstream Memorial Medical Missionary Scholarship.
- Mrs JAMES BUCHANAN—Founder of a Scholarship in Midwifery and Gynecology.
- Dr ANDREW VANS DUNLOP, H.E.I.C.—Founder of the Vans Dunlop Scholarships in Arts, Law, and Medicine.
- Misses STEVEN of Bellahouston—Founders of a Scholarship in Agriculture.
- SUBSCRIBERS TO MEMORIAL OF Dr CHARLES MURCHISON—Founders of the “Charles Murchison Scholarship.”
- Mrs MARY ANN SCOTT or THOMSON of Hawick—Founder of the James Scott Scholarship in Midwifery
- ROBERT MACKAY-SMITH, Esq., Edinburgh—Founder of the Mackay-Smith Scholarships in Natural Philosophy and Chemistry.
- Dr FREDERICK JOHN MOUAT—Founder of the Mouat Scholarship in Practice of Physic.
- Dr JOHN STARK, Auchtermuchty—Founder of the Stark Scholarship in Clinical Medicine.
- Mrs KIDD—Founder of “James Fairbairn’s Scholarship.”
- Miss JANE JEFFREY—Founder of the Jeffrey Scholarships.
- Dr A. H. FREELAND BARBOUR—Founder of the Freeland Barbour Fellowship.
- Miss MATILDA JOHNSTON COBB—Founder of the Cobb Divinity Scholarship.
- Mrs ELIZABETH MACKIE or TREVELYAN—Founder of Scholarships in Engineering and Mechanical and Useful Arts.
- Mrs MUIRHEAD—Founder of Prize in Civil Law Class.

SUBSCRIBERS TO LORIMER MEMORIAL FUND AND ASSOCIATION FOR THE BETTER ENDOWMENT OF THE UNIVERSITY—Founders of the Lorimer Travelling Scholarship.

GEORGE SCOTT, Esq., Peckham, London—Founder of the Scott Travelling Scholarship, for purposes of Study or Research.

GOVERNORS OF GEORGE HERIOT'S TRUST—Founders of Fellowships in Arts and Pure Science.

Mrs E. CROZIER or NICHOL, Edinburgh—Founder of Scholarship in Natural Philosophy.

TRUSTEES OF THE EARL OF MORAY—Founders of "The Earl of Moray's Endowment of £20,000" for Original Research.

Misses MARGARET KEITH AYTOUN and ISABELLA AYTOUN—Founders of the Edmondstone Aytoun Fellowship.

Mrs JANE ALLAN, widow of the late John Allan, M.D., H.E.I.C.S.—Founder of Fellowship in the Faculty of Medicine.

J. M. HOULDSWORTH, Esq. of Ayr, and other Trustees—Founders of "The Houldsworth Scholarship for Research in Pharmacology."

Miss CHRISTIAN THOW of Craigmore, near Dundee—Founder of Scholarships in the Faculty of Law.

(C.)—*Founders of New Chairs, Contributors of Endowments to existing Chairs, or of Money, &c., to the University Funds, Library, &c., within the present Century.*

General JOHN REID—Founder of the Theory of Music Chair, who also bequeathed money to the Funds of the University.

General Sir JOSEPH STRATON—Bequest to the University Funds.

Sir JAMES ERSKINE, of Torry, bequeathed Pictures, Bronzes, and Marbles to the University. [Lent to the National Gallery.]

Sir WILLIAM PULTENEY—Founder of the Chair of Agriculture.

Dr WILLIAM THOMSON—Founder of the Thomsonian Lectureship in Mineralogy.

Sir GEORGE BALLINGALL, Professor of Military Surgery—Presented his Library to the University.

Dr W. P. ALISON, Professor of the Theory of Medicine—Presented his Medical Books to the University.

JOHN MUIR, D.C.L., LL.D., Edinburgh—Founder of Sanskrit Chair.

Sir DAVID BAXTER, Bart., of Kilmarnock—Founder of the Chair of Engineering.

DAVID COWAN, Esq., of Auchendrane, bequeathed £1000 to the Association for Promoting the Endowment of the University.

Sir RODERICK IMPEY MURCHISON gave £6000 for the Endowment of the Chair of Geology.

J. O. HALLIWELL PHILLIPS, Esq., presented his valuable Shakespearean Collection to the University.

ROBERT COX, Esq., W.S., bequeathed £5000 for general purposes and for completing the Dome of the University buildings.

Signor THEOPHILE BUCHER bequeathed his Music Library to the Chair of Music, and reversion of estate to found Scholarships in Music.

THE MERCHANT COMPANY OF EDINBURGH, and other Governors of George Watson's and Daniel Stewart's Hospitals—Founders of the Chair of Political Economy and Commercial Law.

Mr HENRY G. and Miss FRANCES WATSON—Donors of Fund for the "Watson-Gordon Professorship of Fine Art."

Sir D. BAXTER, of Kilmaron, bequeathed £20,000 for the Extension of the University buildings, and £20,000 for the Further Endowment of the Chairs in the Faculty of Arts.

Miss BROWN, of Lanfine, presented a portion of the Minerals and Fossils which belonged to her father—to be called "The Waterhaugh Collection."

THE BELL TRUSTEES, who gave £6000 for the Endowment of the Bell Chair of the Theory, History, and Practice of Education. (Endowment increased in 1886 by £4500, added by Educational Endowments Commission.)

JOHN B. BAILLIE, who transferred the collection of Arabic MSS., formed by Lieut.-Col. Baillie of Leys, to the University Library.

Dr DAVID LAING, bequeathed his MSS. to the University Library.

Mrs HODGSON, presented Works on Political Economy, collected by her late husband, Prof. Hodgson, to the University Library.

Dr VANS DUNLOP bequeathed £3000 to the General Fund of the University.

SUBSCRIBERS to the CELTIC CHAIR, by whom a fund of £14,000 was raised for the endowment of this Chair by the exertions of Professor Blackie.

Miss MARY DICK bequeathed a moiety of the residue of her estate to accumulate for twenty-one years from 1883, or till it shall amount to £10,000, for the Foundation of a Chair of Comparative or Surgical Anatomy, as considered most to be required.

SUBSCRIBERS of £500 and upwards to the "UNIVERSITY OF EDINBURGH BUILDINGS EXTENSION SCHEME":—<sup>1</sup>

Sir David Baxter of Kilmaron, Bart., by bequest, less					
Legacy Duty,	-	-	-	-	£18,000 0 0
William M'Ewan, Esq., LL.D., M.P.,	-	-	-	-	6,500 0 0
The Duke of Buccleuch and Queensberry, K.G.,					
D.C.L., LL.D.,	-	-	-	-	4,000 0 0

<sup>1</sup> See Statement of Funds in Calendar, 1889-90, Appendix, p. 22.

The Magistrates and Council of the City of Edinburgh,	£3,100	0	0
The Right Hon. the Earl of Moray, - -	2,525	0	0
The Right Hon. The Earl of Rosebery, LL.D., -	2,400	0	0
The Royal College of Physicians of Edinburgh, -	1,575	0	0
The Right Hon. the Earl of Stair, K.T., - -	1,500	0	0
Messrs John Jeffrey & Co., - - -	1,500	0	0
J. Fulton, Esq., Clinton Road, - - -	1,150	0	0
Charles Andrew Aitchison, Esq., Queen Street, -	1,050	0	0
The Most Hon. the Marquis of Bute, - - -	1,000	0	0
Andrew Carnegie, Esq., New York and Pittsburg, -	1,000	0	0
The Right Hon. the Earl of Derby, - - -	1,000	0	0
J. R. Findlay, Esq., Rothesay Terrace, - - -	1,000	0	0
The Right Hon. The Earl of Home, - - -	1,000	0	0
The Right Hon. The Earl of Hopetoun, - - -	1,000	0	0
Sir William Stirling-Maxwell of Pollok and Keir, Bart., LL.D., M.P., - - -	1,000	0	0
The Rt. Hon. The Earl of Wemyss and March, LL.D.,	1,000	0	0
The Right Hon. the Lord Justice-General Inglis, D.C.L., LL.D., Chancellor of the University, -	800	0	0
Messrs Thomas Nelson & Sons, - - -	800	0	0
Henry George Watson, Esq., C.A., - - -	800	0	0
The Most Hon. the Marquis of Lothian, - - -	750	0	0
The Society of Writers to the Signet, - - -	750	0	0
J. Lindsay Bennet, Esq., Taviton Street, London, -	710	0	0
James Cowan, Esq., Royal Terrace, - - -	700	0	0
Robert Richardson, Esq., Bruntsfield Place, - -	700	0	0
C. Morrison, Esq. of Islay, - - -	700	0	0
Charles Jenner, Esq., - - -	650	0	0
David Anderson, Esq. of Moredun, - - -	600	0	0
James H. Renton, Esq., Park Lane, London, -	600	0	0
Professor Sir W. Turner, LL.D., D.C.L., - - -	600	0	0
His Grace The Duke of Devonshire, - - -	500	0	0
Charles Cowan, Esq., of Logan House, - - -	500	0	0
T. R. Buchanan, Esq., M.P., - - -	500	0	0
P. D. Swan, Esq., Provost of Kirkcaldy, - - -	500	0	0
Lady Campbell of Garscube, - - -	500	0	0
The late William Cumming, Esq., M.D., Ainslie Place,	500	0	0
The late James T. Gibson-Craig, Esq., York Place, -	500	0	0
Professor Crum Brown, - - -	500	0	0

The Goldsmiths' Company of London,	-	-	£500	0	0
Sir W. Mackinnon, Esq., of Balinakill and Loup,	-	-	500	0	0
Graham Menzies, Esq. of Hallyburton,	-	-	500	0	0
John Graham Menzies, Esq., Grosvenor Crescent,	-	-	500	0	0
W. D. Menzies, Esq., Grosvenor Crescent,	-	-	500	0	0
Miss Trail, Aberlady,	-	-	500	0	0
Messrs William Younger & Co., Abbey Brewery,	-	-	500	0	0
The Right Hon. The Earl of Zetland,	-	-	500	0	0
Anonymous,	-	-	500	0	0

The total amount of subscriptions received was £149,048, 2s. 5d.

EARL OF ROSEBERY provided £50 a year for Lectureship on Philosophy of Natural History for five years.

WILLIAM F. CUMMING, M.D., presented a Drinking Fountain, erected in the Quadrangle of the Old Buildings, in 1886.

JOHN HOPE, W.S., presented a Drinking Fountain to the University New Buildings, 1886.

ALEX. GIBSON, Esq., Advocate, bequeathed £2000, free of legacy-duty, to the General Fund of the University.

WILLIAM M'EWAN, Esq., LL.D., M.P., donor of the M'Ewan Hall, at a cost (including balance paid for Site and Grand Organ) of about £115,000.

ADAM GIFFORD, Senator of the College of Justice, bequeathed £25,000 for the foundation of a Lectureship for promoting, advancing, teaching, and diffusing the study of Natural Theology in the widest sense of that term.

JOHN FULTON, Esq., bequeathed £3000 to General University Fund, the greater part of which has been devoted to the equipment of the new Engineering Laboratory, called the "Fulton Laboratory."

Miss ELIZABETH STEVEN, of Bellahouston—Founder of the Steven Lectureship in connection with the Chair of Agriculture.

ALEXANDER LOW BRUCE, Esq., Edinburgh, £5000	} Founders of "the Bruce and John Usher Chair of Public Health" in the Faculties of Medicine and Science.
Mrs A. L. BRUCE, £500	
Miss A. BLACKWOOD BRUCE, £500	
Other members of the Bruce family, £163	
Sir JOHN USHER, of Norton, £8000	
WILLIAM YOUNGER & Co., £1000	

Benefaction by Sir JOHN USHER of Norton, for the building and equipment of a Laboratory and Class-Rooms in connection with Chair of Public Health.



Sir WILLIAM FRASER, K.C.B., LL.D.—

1. For foundation of Chair or Professorship to be called "The Sir William Fraser Professorship of Ancient History and Palæography," £25,000.
2. For Library purposes, £10,000.
3. Half of Residue of Estate for general purposes, but especially for Foundation of Bursaries, &c., in connection with History, or for promoting Historical Research, expected to amount to about £15,000.

JAMES RITCHIE, Esq., bequeathed £3000 for University purposes.

HIGHLAND AND AGRICULTURAL SOCIETY, £971, 6s. 7d., and ROYAL SCOTTISH ARBORICULTURAL SOCIETY, £584, 3s. 10d., — for further Endowment of a Chair or Lectureship in Forestry.

£50 from C. JUNGHEHN, Rangoon, towards foundation of Chair of Forestry.

The Hon. JOHN MACGREGOR, Burmah, £500 for endowment of Chair of Forestry.

Vote of £80 by the EDINBURGH SCHOOL OF RURAL ECONOMY towards Lectureship of Agricultural Chemistry.

Dr PHILIP NELSON, Annan, bequeathed £84, 12s. 3d. to University Building Fund.

Sir WILLIAM OVEREND PRIESTLEY, M.P., £1000 towards cost of redecorating the Library Hall.

THOMAS M'KIE, £100 towards improving Students' Reading Room.

Hon. BOUVERIE PRIMROSE bequeathed £100 for Original Research and £100 for Library.

The SUBSCRIBERS, for founding a Classical Library in memory of Professors Sellar and Goodhart.

The SUBSCRIBERS, for founding a Departmental Library in Philosophy.

Miss CARRICK MOORE presented to the Geological Class Library, a set of the publications of the Palæontographical Society, the property of her late father, John Carrick Moore, Esq., F.R.S., F.G.S., of Corsewall, Wigtownshire.

Miss ELEANOR A. ORMEROD, F.E.S., Collection of Entomological Diagrams prepared by her late sister.

Professor GWATKIN, D.D., Cambridge, mounted specimens of Molluscan Radulæ for microscope.

Professor KIRKPATRICK, founder of the History Library.

Professor C. P. TIELE—Donation of £100 to History Library.

Rev. Dr JOHN WALKER, formerly Professor of Natural History in the University, bequeathed £991 for University Library and College Museum.

## BEQUESTS AND DONATIONS DURING 1899-1900.

I. *Bequests.*

Bequest of books by Dr John Mackay, Cromarty.

A bequest by the late Miss Janet Charles Brown, Edinburgh, of an Edinburgh Water Trust annuity of £30 for the purpose of providing bursaries in the Faculty of Divinity.

A bequest by the late Professor Rutherford of the diagrams and microscopical specimens in the department of physiology which belonged to him, and of all his books on physiology, histology, anatomy, &c.

A bequest by the late Mrs M. A. Shaw, Ventnor, of £100, to be designated "The Dr Shaw Gift."

A bequest by the late Emeritus Professor Sir John Struthers of anatomical drawings.

Bequest by the late David Chalmers of Redhall of marble bust of the late Thomas Chalmers, D.D., by Sir John Steele, R.S.A.

II. *Donations.*

Gift by the Scottish Musical Society of about 200 music books for the Music Class Room Library.

Grants in aid of forestry instruction in the University:—(1) Government grant, £100; (2) the Highland and Agricultural Society, £50.

Grant of £80 from the Edinburgh School of Rural Economy towards the Lectureship in Agricultural Chemistry.

Bust in marble, by Mr John Hutchison, R.S.A., of the late Professor Rutherford, presented by past and present members of the class of physiology, and placed in the physiology class-room.

Prize, of the value of about £26, given by Scottish medical graduates in the Straits Settlements, for research in tropical diseases.

Biennial prize of the value of £5 in books, for proficiency in history and political science and economics, given by the committee of the fund collected for the Liberal Memorial to Mr Gladstone.

A number of Queen's Scholarships, each about £30 a year, for students proceeding to graduation in Arts or Science who intend to become schoolmasters, given by the educational authorities of the Church of Scotland and the Free Church.

Grant by the Highland and Agricultural Society of £50 towards the Lectureship in Forestry in the University for the current year.

*Bequests and Donations to Library.*

Professor Wallace—A Country Schoolmaster, James Shaw, Tynron.

Canon MacColl—Life Here and Hereafter, 2nd ed., revised, and The Reformation Settlement, &c.

Mr J. M. Barnard—Turgot: a sketch.

S. H. Playfair—The Nicetical Christ.

T. Costley—Sketches of Southport, and other Poems.

- Dr A. Morison—On the relation of the Nervous System to Disease and Disorder in the Viscera. 2 copies.
- Dr G. W. Crile—An experimental research into surgical shock.
- Philatelic Society—A history of the adhesive stamps of the British Isles.
- Professor Nicol—Recent archæology and the Bible (Croall Lectures, 1898).
- Messrs Longmans, Green & Co.—Surgery, by T. Pickering Pick.
- Mr M. Hunt—The King's Daughter, and other poems.
- Dr W. Guthrie—Bell's Principles of the Law of Scotland, 10th ed., revised and enlarged.
- Professor Bayley Balfour—A valuable collection of botanical and medical works.
- Rev. George Gunn—History of the Berwickshire Naturalists' Club and The Session Book of Bonckle.
- Mr A. Taylor Innes—The Trial of Jesus Christ.
- Miss Sharp—Millenial Dawn. 4 vols.
- Lady Playfair—Memoirs and Correspondence of Lyon Playfair, first Lord Playfair, of St Andrews, by Wemyss Reid.
- Professor Flint—Les principes fondamentaux de l'histoire, par A. D. Xénopol.
- Miss C. F. Gordon Cumming—The Inventor of the numeral-type for China. New ed.
- Professor Herdman—Oysters and Disease, by W. A. Herdman and Rupert Boyce.
- Sir Archibald H. Dunbar—Scottish Kings: A revised chronology.
- Mr L. Horton-Smith—The establishment and extension of the law of Thurneysen and Havet.
- Mr M. L. Mather—Pot-Pourri; The Religion of Organisation; James Watson, a memoir; Darwin's Probabilities, &c.
- Professor Saintsbury—Corrected Impressions; Herrick's Poetical Works; Tales of Mystery; Political Verse; Selections from Defoe's Main Novels; Matthew Arnold.
- Mr A. Douglas Thomson—Homer's Odyssey, Book IX.
- Mr H. A. Fairbairn—The College Warden (Rev. R. B. Fairbairn).
- Principal Peterson—Cicero, Pro Cluentio oratio.
- Sir R. Murdoch Smith—General Catalogue of the Books in the Library of the Museum of Science and Art. 2nd ed.
- Town Clerk, Guildhall, London—Calendar of Letter Books, 1275-1298.
- Messrs A. W. Pollard and R. Proctor—Three hundred notable books added to the Library of the British Museum under the keepership of Richard Garnett, 1890-1899.
- The Duc de Loubat—Codex Telleriano-Remensis (1899) and Il manoscritto Messicano vaticano 3738, detto il codice Rios (1900).
- Students' Representative Council—Edinburgh University Students' Handbook, No. IV., 1899-1900.

# ABSTRACT OF THE ACCOUNTS OF The University of Edinburgh

FOR THE YEAR ENDING 31ST AUGUST 1899.

## CAPITAL.

### I. GENERAL UNIVERSITY FUND :—

Funds at beginning of year . . . . .	£68,529	1	1
Added during year—			
Surplus of Revenue over Expenditure for year . . . . .	469	11	6
	<u>£68,998</u>	<u>12</u>	<u>7</u>

### II. FUNDS PARTLY OR WHOLLY UNAPPROPRIATED TO PARTICULAR PURPOSES :—

Funds at beginning of year . . . . .	£126,707	18	1
Added during year—			
Surplus of Revenue over Expenditure for year . . . . .	64	12	7
	<u>£126,772</u>	<u>10</u>	<u>8</u>
Deduct Payments from Funds on account of the Bacteriological Laboratory . . . . .	1,034	6	1
	<u>125,738</u>	<u>4</u>	<u>7</u>

### III. FUNDS APPROPRIATED TO PARTICULAR PURPOSES OTHER THAN BURSARIES, SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES :—

Funds at beginning of year . . . . .	£136,955	5	7
Added during year—			
Donation from Professor C. P. Tiele for the Purchase of Books on History . . . . .	£100	0	0
Bequest by the late Hon. Bouverie F. Primrose for the purposes of the University Library, £100, and for Research, £100 . . . . .	200	0	0
	<u>£300</u>	<u>0</u>	<u>0</u>
Carry forward,	£136,955	5	7
	<u>£194,736</u>	<u>17</u>	<u>2</u>

Brought forward,	£300	0	0	£136,955	5	7	£194,736	17	2
Surplus on Pension Fund .	1,905	9	5						
Surplus of Revenue over Ex-									
penditure . . . . .	52	3	10						
							2,257	13	3
									139,212 18 10

IV. FUNDS FOR BURSARIES, SCHOLARSHIPS, FELLOWSHIPS,  
AND PRIZES :—

Funds at beginning of year . . . . .	£354,632	0	7						
Added during year—									
Surplus of Revenue over Ex-									
penditure . . . . .				1,219	12	10			
									355,851 13 5

V. ESKBANK FEU-DUTIES—CASUALTY FUND.

Fund at beginning of year . . . . .	£309	5	0						
Added during the year :—									
Surplus of Revenue over Expenditure for year				48	16	5			
									358 1 5

Total Funds at 31st August 1899 . . . . . £690,159 10 10

NOTE.—The above Funds are stated at their book value or cost price. The market value of the Funds at the 31st August 1899 exceeded the book value by £35,981, 7s. 9d. No notice is taken above of the University Buildings, New Medical School, Music Class Room, and Principal's Official Residence, or of the Library, Museums, and Furnishings of the University, as the values of these are not known.

REVENUE AND EXPENDITURE.

I. GENERAL UNIVERSITY FUND.

<i>Revenue.</i>	<i>Revenue.</i>	<i>Expenditure.</i>
1. Matriculation Fees . . . . .	£2,950 10 0	...
2. Entrance Fees from Students not matricu- lated . . . . .	15 0 0	
3. Fees in lieu of Matriculation Fees . . . . .	88 4 0	
4. Preliminary Examination Fees . . . . .	444 5 0	
5. Graduation Fees :—		
(1) Arts . . . . .	£978 11 6	
(2) Science . . . . .	352 5 0	
(3) Medicine . . . . .	6,414 6 0	
(4) Divinity . . . . .	71 8 0	
(5) Law . . . . .	57 15 0	
(6) Music . . . . .	22 11 6	
	<u>7,896 17 0</u>	
Carry forward,	£11,394 16 0	£ ...

	Brought forward,	Revenue.	Expenditure.
		£11,394 16 0	£ ...
6. Fees of Registration of Members of General Council . . . . .		320 0 0	
7. Fees of Access to Library . . . . .		44 12 6	
8. Income from Accumulations of the General University Fund . . . . .		2,147 0 6	
9. Income from Funds bequeathed for general purposes :—			
(1) Straton Fund . . . . .	£422 19 10		
(2) Cox Fund . . . . .	69 7 10		
(3) Gibson Fund . . . . .	64 14 2		
		557 1 10	
10. Income from Funds partly appropriated to particular purposes, the Surplus Income of which falls to general purposes :—			
(1) Leith Harbour Annuity Fund . . . . .	£624 5 6		
(2) Reid Fund . . . . .	510 15 6		
		1,135 1 0	
11. Income from Funds specifically appropriated by Deed of Endowment to Class Expenses :—			
(1) Fund for Chair of Engineering . . . . .	£23 4 0		
(2) Fund for Chair of Geology . . . . .	45 10 10		
(3) Fund for Chair of Fine Art . . . . .	40 16 10		
(4) Fund for Chair of Commercial and Political Economy . . . . .	74 0 0		
(5) Gilchrist Fund for purchase of apparatus . . . . .	79 15 0		
		263 6 8	
12. Income from Parliamentary Grant . . . . .		25,870 0 0	
13. Income from Endowment of Chairs in the Faculty of Divinity . . . . .		252 8 2	
14. Surplus on Fee Fund . . . . .		3,427 5 8	
15. Royalty from Publisher of University Calendar . . . . .		100 0 0	
16. Fees from Societies for Use of Rooms, &c. . . . .		53 4 6	
17. Repayment from Fraser Bequest of expenses of preparation of a Calendar of the Laing Charters . . . . .		225 0 0	
		£45,789 16 10	
Carry forward,		£45,789 16 10	£ ...



	Brought forward,	Revenue.	Expenditure.
		£45,789 16 10	£ ...
<i>Expenditure.</i>			
1. Expenses of Administration :—			
(1) University Court . . . . .	..	£877	3 4
(2) Senatus Academicus . . . . .	...	1,912	10 6
(3) General Council . . . . .	...	208	8 8
(4) Curators of Patronage . . . . .	...	15	15 0
(5) Editing University Calendar . . . . .	...	50	0 0
(6) Students' Representative Council . . . . .	...	35	0 0
(7) Factor . . . . .	...	705	3 0
(8) Law Agents . . . . .	...	69	13 6
(9) Auditor . . . . .	...	25	19 0
2. Salaries to Principal and Professors :—			
(1) Salary to Principal in accordance with Section III. of Ordinance No. 27 of the Scottish Universities Commissioners	£1,048 17 10		
(2) Salaries to Professors in accordance with Section VII., Sub-section 1 (b), of said Ordinance . . . . .	4,329 1 7		
(3) Salaries to Professors in accordance with Section VII., Sub-section 2, of said Ordinance . . . . .	1,530 2 9		
(4) Salaries to Professors in accordance with Sections IX. and XI., Sub-section 2 (d), of said Ordinance . . . . .	3,411 5 10		
(5) Salaries to Professors in the Faculty of Divinity in accordance with Section XI., Sub-section 2 (e), of said Ordinance . . . . .	452 8 2		
(6) Salary of Professorship instituted subsequent to said Ordinance . . . . .	130 0 0		
			10,901 16 2
3. Provision for Pensions to Retired Professors . . . . .			5,000 0 0
4. Upkeep of Buildings :—			
(1) Buildings and Furnishings	£3,283 1 1		
(2) Lighting, Heating, and Cleaning . . . . .	1,284 4 9		
Carry forward,	£4,567 5 10	£45,789 16 10	£19,801 9 2

	Revenue.	Expenditure.
Brought forward, £4,567 5 10	£45,789 16 10	£19,801 9 2
(3) Public Burdens and Feudal Duties . . . . .	443 16 1	
4) Insurance . . . . .	220 0 6	
		5,231 2 5
5. Equipment and Upkeep of Library . . . . .		2,798 8 1
6. Equipment and Upkeep of Museums . . . . .		400 0 0
7. Equipment and Upkeep of Laboratories, including Class Expenses . . . . .		3,409 12 5
8. Lecturers and Assistants . . . . .		9,480 13 0
9. Examiners . . . . .		2,382 6 0
10. Service . . . . .		1,056 13 0
11. Class Medals and Prizes . . . . .		281 11 4
12. Graduation Expenses . . . . .		143 14 10
13. Incidental Expenses and Grants . . . . .		40 7 0
14. Expenses in connection with Public Health Institute . . . . .		294 8 1
	£45,789 16 10	£45,320 5 4
Deduct Transfers to other Funds . . . . .	10,859 4 4	10,859 4 4
Carried to Abstract . . . . .	£34,930 12 6	£34,461 1 0

## II.—FEE FUND ACCOUNT AND SALARIES ACCOUNT:—

	Revenue.	Expenditure.
1. Fee Fund Account . . . . .	£24,836 3 6	£24,836 3 6
2. Salaries Account . . . . .	9,605 9 6	9,605 9 6
3. Fees collected for Professors and Lecturers not falling into Fee Fund . . . . .	509 15 6	509 15 6
	£34,951 8 6	£34,951 8 6
Deduct Transfers to other Funds . . . . .	3,427 5 8	3,427 5 8
Carried to Abstract . . . . .	£31,524 2 10	£31,524 2 10

## III.—FUNDS PARTLY OR WHOLLY UNAPPROPRIATED TO PARTICULAR PURPOSES:—

	Revenue.	Expenditure.
1. Annuity under the Edinburgh Corporation Stock Act, 1894 . . . . .	£1,687 1 0	£1,687 1 0
2. Reid Fund . . . . .	1,514 2 2	1,514 2 2
3. Reid Professorship of Music, Assistants, and Expenses Fund . . . . .	520 0 0	463 5 1
4. Straton Fund . . . . .	422 19 10	422 19 10
5. Cox Fund . . . . .	69 7 10	69 7 10
6. Gibson Fund . . . . .	64 14 2	64 14 2
7. University Building Fund . . . . .	7 17 8	1,034 6 1
	£4,286 2 8	£5,255 16 2
Deduct Transfers to other Funds . . . . .	3,128 16 10	3,128 16 10
Carried to Abstract . . . . .	£1,157 5 10	£2,126 19 4

IV.—FUNDS APPROPRIATED TO PARTICULAR PURPOSES OTHER THAN  
BURSARIES, SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES :—

	Revenue.	Expenditure.
1. Baxter Salary Fund . . . . .	£583 13 6	£583 13 6
2. Bell Chair of Education . . . . .	349 19 4	349 19 2
3. Celtic Chair . . . . .	505 10 0	505 10 0
4. Lectureship in Procedure and Evidence . . . . .	100 0 0	100 0 0
5. Chair of Commercial and Political Economy . . . . .	524 0 0	524 0 0
6. Chair of Engineering, viz. :—		
(1) Fund for Professor's Salary . . . . .	193 6 8	193 6 8
(2) Fund for Expenses of the Chair . . . . .	23 4 0	23 4 0
7. Chair or Lectureship on Forestry . . . . .	229 15 2	229 15 2
8. Gilchrist Fund . . . . .	79 15 0	79 15 0
9. Gifford Lectureship . . . . .	665 15 3	705 19 0
10. Muir Chair of Sanskrit . . . . .	226 19 2	226 19 2
11. Murchison Chair of Geology, viz. :—		
(1) Fund for Professor's Salary . . . . .	181 0 6	181 0 6
(2) Fund for Expenses of the Chair . . . . .	36 3 8	36 3 8
12. M'Ewan Hall . . . . .	617 19 6	617 19 6
13. Nichol Foundation . . . . .	48 7 8	48 7 8
14. Pulteney Chair of Agriculture . . . . .	39 5 6	39 5 6
15. Chair of Public Health . . . . .	454 6 8	319 17 11
16. Pension Fund . . . . .	5,315 13 9	3,410 4 4
17. Steven Lectureship on Agriculture . . . . .	87 0 0	87 0 0
18. Thomson Funds, viz. :—		
(1) Fund for Salary of Professor of Natural History . . . . .	37 9 0	37 9 0
(2) Fund for Expenses of Chair of Geology . . . . .	9 7 2	9 7 2
19. Watson Gordon Professorship of Fine Art., viz. :—		
(1) Fund for Professor's Salary . . . . .	426 9 4	426 9 4
(2) Fund for Expenses of the Chair . . . . .	40 16 10	40 16 10
20. Library Fund . . . . .	9 7 10	56 7 8
21. Natural History Museum Fund . . . . .	9 0 6	1 3 0
22. Research Fund . . . . .	1 7 7	...
23. Tiele Library Fund . . . . .	...	4 6 7
24. Lectures on Agricultural Chemistry . . . . .	80 0 0	80 0 0
25. Chair of Conveyancing . . . . .	105 0 0	105 0 0
	£10,980 13 7	£9,023 0 4
Deduct Transfers to other Funds	3,587 15 10	3,587 15 10
Carried to Abstract	£7,392 17 9	£5,435 4 6

## V.—FUNDS FOR BURSARIES, SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES:—

	Revenue.	Expenditure.
1. Aitken Scholarship . . . . .	£97 15 1	£1 5 11
2. Ardvorlich Bursary . . . . .	15 9 4	15 9 4
3. Neil Arnott Prize . . . . .	36 5 0	36 5 0
4. Neil Arnott Scholarship . . . . .	33 4 6	31 18 0
5. Baxter Mathematical and Philosophical Scholarships . . . . .	122 13 10	93 6 8
6. Baxter Natural and Physical Science Scholarships . . . . .	148 7 4	153 11 0
7. Misses Baxter of Balgavies Scholarships . . . . .	159 2 9	150 5 3
8. John Edward Baxter Scholarships, viz.:—		
(1) Fund for Scholarships . . . . .	240 16 6	240 16 6
(2) Fund for Examiners' Fees . . . . .	11 12 0	11 16 0
9. Bruce of Grangehill and Falkland Bursaries and Scholarships . . . . .	442 11 11	483 19 5
10. Beaney Prize . . . . .	31 8 4	62 16 8
11. Buchanan Scholarship . . . . .	39 3 0	38 13 4
12. Buchanan Bursary . . . . .	22 5 4	22 12 7
13. Bucher Scholarship . . . . .	118 18 0	117 13 0
14. Bayne Bursary . . . . .	24 3 4	23 18 4
15. Brown Bursaries . . . . .	24 3 4	19 11 2
16. Blair Arts Bursary . . . . .	9 6 0	9 6 0
17. James Beattie's Bursaries . . . . .	1 14 4	2 2 11
18. Cairns Bursary . . . . .	18 7 4	18 7 4
19. Cameron Prize . . . . .	88 11 0	184 2 6
20. Dr John Aitken Carlyle's Medical Bursaries . . . . .	54 2 8	54 2 8
21. Cousin Prize . . . . .	14 13 10	14 13 10
22. Bailie Cousin Bursary . . . . .	27 1 4	27 1 4
23. Cobb Scholarship . . . . .	29 0 0	29 0 0
24. Crichton Bursaries, and Scholarships . . . . .	971 17 6	584 15 2
25. Drummond Scholarship, viz.:—		
(1) Fund for Scholarship . . . . .	90 12 5	89 6 0
(2) Fund for Examiners' Fees . . . . .	6 0 10	0 1 7
26. William Dickson Travelling Fund . . . . .	87 0 0	78 13 0
27. Dundas Bursaries . . . . .	42 17 7	40 12 6
28. Dalgleish and Macmorran Bursary . . . . .	13 8 4	13 8 4
29. Edinburgh University Endowment Association's Arts Bursaries . . . . .	120 0 0	61 7 9
30. Ettles' Divinity Scholarships . . . . .	96 10 11	79 15 11
31. Ettles' Medical Scholarship . . . . .	30 4 2	30 12 3
32. Ellis Prize . . . . .	29 18 3	0 8 1
33. Falconer Memorial Fellowship, viz.:—		
(1) Fund for Fellowship . . . . .	110 19 3	4 14 2
(2) Fund for Examiners' Fees . . . . .	4 2 2	25 5 0

Carry forward,	£3,414 7 6	£2,851 14 6
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	Revenue.			Expenditure.		
Brought forward,	£3,414	7	6	£2,851	14	6
34. Fotheringham and Forrest Bursaries . . . . .	38	6	2	19	10	11
35. James Fairbairn Scholarship . . . . .	32	17	4	32	17	4
36. Freeland Barbour Fellowship . . . . .	48	6	8	96	13	4
37. Fraser Bursaries . . . . .	42	1	0	42	1	0
38. Donald Fraser Bursary . . . . .	49	6	0	49	6	0
39. Ford Bursaries . . . . .	32	4	6	32	4	6
40. Glover Divinity Scholarship . . . . .	33	4	7	0	8	10
41. Gray Scholarships . . . . .	84	5	11	42	15	0
42. Guthrie Fellowship . . . . .	82	17	10	82	17	10
43. Grierson Bursaries . . . . .	308	15	3	246	10	10
44. Gunning Scholarships . . . . .	2	7	5	0	0	8
45. Gunning Medical Prizes . . . . .	14	17	9	0	3	7
46. Gunning Divinity Prize . . . . .	10	13	2	0	2	0
47. Goodsir Memorial Prize. . . . .	122	7	7	35	4	9
48. Hamilton Philosophical Fellowship, viz.:—						
(1) Fund for Fellowship . . . . .	82	15	10	42	18	11
(2) Fund for Examiners' Fees . . . . .	4	4	8	0	1	2
49. Harrison Bursary . . . . .	25	7	6	25	7	4
50. Hope Prize . . . . .	75	14	3	60	1	7
51. Robert Hunter Bursaries . . . . .	33	2	3	0	15	6
52. Houldsworth Scholarship . . . . .	44	9	4	44	9	4
53. Jardine Bursary . . . . .	42	3	0	41	19	4
54. Jardine of Thorieshope Bursaries. . . . .	289	4	0	376	16	0
55. Johnston of Harthope Bursary . . . . .	15	14	2	0	7	6
56. Jeffrey Scholarships . . . . .	131	16	7	132	12	0
57. Robert Johnston Bursaries . . . . .	54	2	8	42	0	10
58. Archibald Johnstone Bursary . . . . .	12	17	4	12	17	7
59. David Kidd Divinity Scholarship . . . . .	34	16	0	34	16	0
60. Kelland Memorial Prize . . . . .	4	9	2	4	10	3
61. General Lang's Bequest . . . . .	15	9	4	0	4	3
62. Lockerby Bursary . . . . .	30	19	8	30	19	8
63. Lorimer Travelling Scholarship . . . . .	38	13	4	0	10	3
64. Leckie Mactier Fellowship . . . . .	77	6	8	116	0	0
65. Leighton and Struthers Bursary . . . . .	22	12	2	22	12	2
66. Charles Maclaren Scholarship, viz.:—						
(1) Fund for Scholarship . . . . .	112	14	4	61	14	8
(2) Fund for Examiners' Fees . . . . .	7	14	8	19	0	0
67. Maxton Scholarship . . . . .	40	19	9	40	19	8
68. Mackenzie Classical Scholarship . . . . .	104	0	9	102	14	2
69. Macpherson Bursaries . . . . .	83	5	1	81	11	2
70. Marshall Bursary . . . . .	31	8	4	16	9	0
71. Mackenzie Bursaries in Anatomy . . . . .	33	4	7	33	4	10
72. Mackinnon Bursaries . . . . .	58	18	0	78	0	10
73. Mann Bursaries . . . . .	78	13	3	77	6	10

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Carry forward, £5,903 15 4 £5,033 11 11

	Revenue.			Expenditure.		
	Brought forward,	£5,903	15 4	£5,033	15 11	
74. Mackie Bursaries . . . . .		58	0 0	58	0 0	
75. Maclaurin Bursary . . . . .		63	1 7	61	0 8	
76. Maule Bursaries . . . . .		82	13 0	72	16 6	
77. Milner Fothergill Prize . . . . .		9	13 4	0	2 6	
78. Muirhead Prize . . . . .		15	2 0	6	19 0	
79. M'Lurg and Penman Bursary . . . . .		20	0 10	0	17 1	
80. Miller Bursary . . . . .		23	4 0	22	19 3	
81. Mitchell and Shortt Bursary . . . . .		21	6 0	21	1 7	
82. Mackenzie (Stornoway) Bursary . . . . .		26	2 0	26	2 0	
83. Moray Foundation . . . . .		604	3 4	580	18 1	
84. Mouat Scholarship . . . . .		53	7 4	28	6 11	
85. M'Cosh Graduate's Bursary . . . . .		107	16 10	37	8 2	
86. M'Cosh Medical Bursary . . . . .		8	2 4	2	16 7	
87. Newton Bursaries . . . . .		85	7 11	43	9 7	
88. Nairne Bursary . . . . .		16	2 4	15	19 1	
89. Prizes in Sanskrit . . . . .		...		5	0 0	
90. Philosophy Honours Exhibition . . . . .		40	0 0	40	0 0	
91. Pitt Club Classical Scholarship . . . . .		56	11 0	56	11 0	
92. Pitt Club Theological Scholarship . . . . .		96	7 8	96	5 2	
93. Patrick Bursaries . . . . .		150	9 3	145	0 0	
94. Pattison Bursary . . . . .		10	3 0	5	3 0	
95. Patterson Bursary . . . . .		15	11 8	0	7 5	
96. Bailie John Penman Bursary . . . . .		14	5 2	14	2 4	
97. Rev. John Penman High School Bursaries . . . . .		7	16 2	0	2 1	
98. Pringle and Wardrop Bursary . . . . .		14	4 3	16	8 11	
99. Rhind Scholarships . . . . .		158	6 6	201	18 6	
100. Renton Bursary in Arts . . . . .		19	6 8	18	5 8	
101. Renton Bursary in Divinity . . . . .		19	6 8	19	6 8	
102. Ramsay Bursary in Arts . . . . .		10	14 10	10	14 10	
103. Ramsay Bursary in Divinity . . . . .		16	2 4	0	7 6	
104. Ritchie Scholarships . . . . .		78	17 8	82	2 3	
105. Horsliehill Scott Bursary . . . . .		64	8 0	64	8 0	
106. Shaw Philosophical Fellowship . . . . .		134	18 6	135	18 2	
107. Steven of Bellahouston Scholarship . . . . .		67	13 4	67	13 4	
108. Syme Surgical Fellowship, viz. :—						
(1) Fund for Fellowship . . . . .		96	12 8	52	13 11	
(2) Fund for Examiners' Fees . . . . .		8	14 0	12	14 2	
109. Scott and Dunbar Prize . . . . .		27	8 4	28	12 4	
110. Dobbie Smith Prize . . . . .		4	17 6	0	1 4	
111. Mackay Smith Scholarships, viz. :—						
(1) Fund for Scholarships . . . . .		96	13 4	84	11 8	
(2) Fund for Examiners' Fees . . . . .		3	17 4	1	12 9	
112. Stark Scholarship . . . . .		54	2 8	108	5 4	
113. James Scott Scholarship . . . . .		31	8 4	31	17 11	
Carry forward,	£8,396	15 0	£7,312	13 2		



	Revenue.	Expenditure.
Brought forward, .	£8,396 15 0	£7,312 13 2
114. Stewart Bursaries . . . . .	34 16 0	34 16 0
115. George Scott Scholarship . . . . .	32 14 11	31 8 4
116. Tarsappie Bursary . . . . .	5 0 6	0 1 4
117. Trevelyan Scholarship . . . . .	30 3 2	7 18 10
118. Trotter and Penman Bursary . . . . .	12 9 6	12 6 11
119. Vans Dunlop Scholarships . . . . .	2,285 1 5	2,318 16 5
120. Wightman Prize . . . . .	12 18 7	0 3 6
121. Robert Wilson Prize . . . . .	7 15 8	6 6 4
122. Webster Bursaries . . . . .	120 7 1	118 18 0
123. John Welsh Bursaries . . . . .	195 14 2	119 13 7
124. Whitelaw Bursaries . . . . .	68 15 2	68 12 8
125. King William III. Bursaries . . . . .	50 0 0	1 3 3
126. Weir, Jenkins, Hepburn, and Lightbody Bursary . . . . .	11 0 2	11 0 2
127. Wight, M'Call, and Christie Bursary . . . . .	12 12 4	12 12 4
Carried to Abstract . . . . .	<u>£11,276 3 8</u>	<u>£10,056 10 10</u>

VI. ESKBANK FEU-DUTIES—CASUALTY FUND:—

	Revenue.	Expenditure.
Total amount of Feu-Duties and Ex- penditure therefrom . . . . .	£529 8 10	£480 12 5
Deduct transfer to other Funds . . . . .	461 1 2	461 1 2
Carried to Abstract . . . . .	<u>£68 7 8</u>	<u>£19 11 3</u>

ABSTRACT OF REVENUE AND EXPENDITURE.

	Revenue.	Expenditure.
I. GENERAL UNIVERSITY FUND . . . . .	£34,930 12 6	£34,461 1 0
II. FEE FUND ACCOUNT AND SALARIES ACCOUNT . . . . .	31,524 2 10	31,524 2 10
III. FUNDS PARTLY OR WHOLLY UNAPPROPRI- ATED TO PARTICULAR PURPOSES . . . . .	1,157 5 10	2,126 19 4
IV. FUNDS APPROPRIATED TO PARTICULAR PURPOSES OTHER THAN BURSARIES, SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES . . . . .	7,392 17 9	5,435 4 6
V. FUNDS FOR BURSARIES, SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES . . . . .	11,276 3 8	10,056 10 10
VI. ESKBANK FEU-DUTIES—CASUALTY FUND . . . . .	68 7 8	19 11 3
TOTAL REVENUE AND EXPENDITURE, . . . . .	<u>£86,349 10 3</u>	<u>£83,623 9 9</u>

# The University Court.

## ABSTRACT OF THE PROCEEDINGS OF THE UNIVERSITY COURT, FROM 1ST MAY 1899 to 1ST MAY 1900.

MONDAY, 15TH MAY 1899.—The Minutes of last Meeting were submitted and approved.

Reports by the Senatus under Ordinance No. 11, Sections xiii. (1) and xxii., were submitted.

On the recommendation of the Senatus, the Court approved of a continuance, for the current summer session, of the arrangements agreed to at the March meeting of the Court for carrying on the work of the Chair of Physiology.

Grants recommended by the Senatus from the Earl of Moray Endowment for purposes of original research, were approved.

The Court approved of the recommendation of the Senatus that the course of lectures on Ethics by the University Lecturer in Moral Philosophy be regarded as the primary course under the Lectureship, and that for the current summer session the course on Psychology may be omitted.

It was reported that a letter from Professor Prothero had intimated his desire to resign his Office of Professor of History (Chair instituted under Ordinance of the Scottish Universities Commission, 1889, No. 30). The Court, in accepting the resignation, agreed to record the regret with which they received the intimation, their appreciation of Professor Prothero's services to the University, and their deep sense of the loss which the University must sustain in consequence of his resignation. It was agreed that the resignation should take effect as from 31st July next. The Court also approved of the steps which had been taken to advertise the Chair as vacant from that date, and resolved to proceed to an appointment at the stated meeting of the Court on 17th July next.

It was reported that the Electing Body, Steven Lectureship in Agriculture, had reappointed Dr William Fream, University Lecturer on Agricultural Entomology for a further period of three years.

On the recommendation of the Professor, Mr A. W. Borthwick, B.Sc., was appointed a University Assistant in Botany and Lecturer on Plant Physiology for the current summer session.

Receipt was intimated of £100, being Government grant towards the

Lectureship of Forestry, and of £80 from the Edinburgh School of Rural Economy towards the Lectureship in Agricultural Chemistry.

With reference to a communication from a conference of the Students' Representative Councils of the four Universities, requesting the University Court to consider the question of having a Joint Board of Examiners for Degrees in Arts and Science for the Scottish Universities, the Court resolved that it would be premature, so soon after the expiry of the Universities Commission, and before the publication of their final Report, to take up this large question, involving an entirely new departure in the system of the Scottish Universities.

A report by the Committee on the John Usher Institute of Public Health having been considered, the following Resolution was adopted : —“The Court have seen with much satisfaction the admirable plans approved by Mr Usher, and they desire to record their sense of his munificence in so handsomely providing the full funds required for the erection of an Institute so complete in internal arrangement and in design. The Court approve of the Report of the Committee, empower them to carry out the plans of the Institute for the sum specified in the Report, and instruct the Factor to have the Feu Charter completed.”

The Rev. J. M. Robertson, M.A., St Ninians, was reappointed a Governor of the Stirling Educational Trust for a period of five years as from 1st August next.

Receipt of £50, being vote by the Highland and Agricultural Society of Scotland towards the Lectureship in Forestry for the current year, was reported.

A request by the Magistrates and Town Council of Edinburgh for the use of the M'Ewan Hall on the occasion of conferring the Freedom of the City on H.R.H. The Prince of Wales, on 6th July next, was granted.

MONDAY, 19TH JUNE 1899.—The Minutes of last Meeting were submitted and approved. It was explained that the Meeting had been postponed under Standing Order 47 from 12th to 19th current.

The Business and Law Committee reported that they had revised and adjusted the terms of the Commission which had been issued to the new Professor of Physiology.

A statement of fees payable to Examiners in connection with the Preliminary M.A., and other examinations of March-April last was submitted by the Finance Committee and approved.

The half-yearly Report on expenditure on repairs and jobbing work, under Standing Order 40, was read and approved.

The Committee on the John Usher Institute of Public Health reported that, as empowered by the Court at their last Meeting, they had requested the Architects to proceed at once with the working drawings, and to obtain estimates, and that the Factor had been instructed to complete the Feu Charter.

A report by the Senatus under Ordinance II, xxii., was submitted.

On the recommendation of the Senatus, the following Additional Examiners were appointed in connection with Theses presented by candidates for the Degree of D.Sc. :—Professor Crichton Mitchell—Thesis, “The absolute thermal conductivity of nickel ;” Principal R. T. Glazebrook, M.A.—Thesis “Lighthouse optics ;” Professor Ewing, Cambridge—Thesis, “The energy of Röntgen rays ;” Professor Perkin, The Owens College, Manchester—Thesis, “The preparation of phenyl-betaine.” Dr A. P. Aitken was recognised as an Academical Lecturer on Chemistry for purposes of Graduation in Science. Mr R. Turnbull, B.Sc., was recognised as an Extra-Academical Lecturer on Botany, whose courses of instruction qualify for the first B.Sc. examination. The University Lecturers in French Language and Literature and Romance Philology, and in German Language and Literature and Teutonic Philology, whose term of office expires 30th September next, were reappointed for a period of two years in each case.

It was intimated that the late Mr David Chalmers of Redhall had bequeathed to the University the marble bust of his uncle, the Rev. Dr Thomas Chalmers, by Sir John Steell, the gift being subject to a liferent of the estate.

It was reported that copies of statistics relative to the Preliminary Examinations of March-April last had been received and distributed among Members of the Court. Various Reports by the Finance Committee were submitted and approved.

MONDAY, 17TH JULY 1899.—The Minutes of last Meeting were submitted and approved.

The Court approved of draft clauses submitted by the General Medical Council amending the Medical Acts, and giving additional disciplinary powers, with the proviso that the “Medical Authority” in the Scottish Universities having the power of revoking, cancelling, and restoring Medical Degrees be clearly defined to be the Senatus under appeal to the University Court.

The Court sanctioned internal alterations in the practical rooms in the Department of Physiology in order to accommodate a larger number of students, and agreed to purchase the apparatus necessary for the extension of the teaching in this Department.

On the recommendation of the Works Committee, it was agreed to refloor and rebench the Humanity Class Room, and to effect alterations in some of the rooms of the Philosophical Department. Various other Reports of the same Committee were adopted.

A report by the Committee on the Medical Education of Women was submitted and approved ; and an application by the Scottish Association for the Medical Education of Women for renewal of recognition for next academical year of the Medical College for Women, Minto House, Chambers Street, was granted.

A report of the Senatus under Ordinance 11, XIII. (1), was submitted.

The Senatus reported that Professor Edward Albert Schäfer, M.R.C.S., LL.D., F.R.S., having presented his Commission as Professor of Physiology, was duly inducted as a member of the Senatus Academicus.

On the recommendation of the Senatus, the Court approved of various grants from the Earl of Moray Endowment for purposes of original research.

Dr R. Bruce Low was appointed Additional Examiner in connection with a thesis submitted for the D.Sc. Degree in Public Health.

Professor Richard Lodge, M.A., Professor of History in the University of Glasgow, and formerly Fellow and Tutor of Brasenose College, Oxford, was elected to the Chair of History, vacant by the resignation of Professor Prothero.

The University's Representatives on the Joint Board of Examiners of the Scottish Universities for the year from 1st February next were appointed as follows:—(1) Professor Saintsbury (English); (2) F. R. Jamieson, M.A. (Classics); (3) James Goodwillie, M.A., B.Sc. (Mathematics and Dynamics); (4) Dr Charles Sarolea (Modern Languages).

The recommendations by the respective Professors as to the appointment of University Assistants for next academical year which had been received up to the date of meeting were approved, and such of them as are University Lecturers were continued in their Office as Lecturers for the same period.

Dr A. P. Aitken was reappointed University Lecturer on Agricultural Chemistry for next academical year.

The Court had before them a Draft Ordinance providing for the separation of the teaching of Medical Jurisprudence or Forensic Medicine and Public Health, in consequence of the institution of a separate Chair of Public Health.

MONDAY, 16TH OCTOBER 1899.—The Minutes of last Meeting were submitted and approved.

The Report of the Finance Committee on Lectureships, Assistants and Class Expenses for the current academical year was submitted, adjusted, and approved.

The Committee on the Sir John Usher Institute of Public Health reported that they had accepted tenders for the erection of the building, and that they had authorised the Architects to proceed at once with the work.

On the recommendation of the Senatus, the Court approved of leave of absence being given to the Professor of Medicine, Sir Thomas Grainger Stewart, the state of whose health prevents him from undertaking University duties during the current winter session. The proposed teaching arrangements in the Department of Medicine during the Pro-



fessor's absence were approved. In accordance with these, Dr John Wyllie, Edinburgh, will conduct the Class of Medicine and discharge the relative Professorial duties; and Dr Alexander Bruce, Edinburgh, will teach Sir Thomas Grainger Stewart's section of the class of Clinical Medicine, and perform the duties that would otherwise be required of Sir Thomas as a Professor of Clinical Medicine.

It was reported that Professor Richard Lodge, M.A., having presented his Commission as Professor of History in the University, was duly inducted as a member of the *Senatus Academicus*.

On the recommendation of the *Senatus*, the Court approved of grants being made from the Moray Endowment to Professor Schäfer for purposes of research on the central nervous system, and to Dr John Malcolm for purposes of research on the alterations in bone marrow produced by nucleins and their allies.

A report of the *Senatus* under Ordinance No. 11, Section XXII., was submitted.

The Court granted Recognition to George M. Robertson, M.B., and Theodore Shennan, M.D., Edinburgh, as Extra Academical Teachers, whose courses of instruction in Mental Diseases and Pathology, respectively, shall qualify for Graduation in Medicine in the University. The Court continued recognition to Dr R. F. C. Leith as an Extra Academical Lecturer on Pathology on change of teaching premises from Edinburgh to the Mason University College, Birmingham.

The University of Harvard, U.S.A., was recognised as a University whose Medical Degrees qualify for entrance to the Examination for the Degree of Bachelor of Science in the Department of Public Health in the University of Edinburgh.

The members of the Standing Committees (Business and Law, Finance, and Works) were appointed for the current academical year; and the Court's quota of members on the Library and Museum Committees were appointed for the same period.

It was reported that Mr A. Douglas Thomson, M.A., D.Litt., had resigned his Offices as University Lecturer and Assistant in Greek on his appointment as one of Her Majesty's Inspectors of Schools. The Court, on the recommendation of the Professor, appointed Mr A. W. Mair, M.A., to the Offices vacated by Mr Thomson, for the current academical year.

The recommendations by the respective Professors of University Assistants—which had been received since last meeting—were approved for the current academical year.

Various Reports by the Finance and Works Committees were submitted and approved.

MONDAY, 13TH NOVEMBER 1899.—The Minutes of last Meeting were submitted and approved.

The Principal was reappointed a Curator of Patronage for three years from 5th prox.



The Court approved of a Draft Deed of Declaration of Trust, submitted by the Business and Law Committee, regarding the surplus fund handed over to the Court by the University Field Committee for purposes specified in the draft Deed.

A report of the Senatus, under Ordinance 16, section x., was submitted.

The Court agreed to recognise Mr A. T. Masterman, D.Sc., Edinburgh, as an extra-academical teacher, whose courses of instruction in Zoology qualify for Graduation in Medicine.

On the recommendation of the Principal and Deans Committee of Senatus, made on the ground of urgency, an application by the Professor of Conveyancing for leave of absence till the Christmas vacation, owing to the state of his health, was granted. The arrangements proposed by the same Committee for conducting the work of the Chair during the Professor's absence were approved.

The General Council reported the re-election of Drs Heron Watson and Joseph Bell as Assessors in the University Court.

It was reported that the Most Honourable the Marquess of Dufferin and Ava, K.P., G.C.B., &c., had, on the 4th inst., been elected Rector of the University.

Dr A. G. Miller, Edinburgh, was reappointed an Additional Examiner in Clinical Surgery for a period of two years from 1st January next; and Professor Johnson Symington, M.D., was continued as Additional Examiner in Anatomy for one year from the same date. The appointment of Additional Examiners in (1) French and German; (2) Sanskrit; (3) Celtic; (4) Astronomy; (5) Geology; (6) History; (7) Forestry; (8) Materia Medica; and (9) Clinical Surgery (two Additional Examiners) was remitted to Committees, with power to advertise should they see fit.

The Committee on the Class Returns for 1897-98 submitted their Report. The Class Returns for 1898-99 were remitted to a committee.

Various Reports, submitted by the Business and Law, Finance, and Works Committees, were submitted and approved.

MONDAY, 18TH DECEMBER 1899.—The Report by the Finance Committee on the University Accounts for 1898-99 and Estimates for the current financial year was submitted, adjusted, and approved.

The Committee on the Sir John Usher Institute of Public Health reported that, at the request of Sir John Usher, accommodation had been provided in the Institute for work in connection with the Public Health of the City of Edinburgh, and they recommended the Court to communicate with the Town Clerk on the matter. The Court approved of this recommendation.

The Senatus reported that they had re-elected Professor Crum Brown as one of their Assessors in the University Court.

The following were appointed Additional Examiners in connection with Theses submitted by candidates for higher degrees in Arts and

Science:—The Rev. Professor Martin, New College, Edinburgh, Degree of D.Phil. ; Principal Salmond, Free Church College, Aberdeen, Degree of D.Litt. ; and Mr John Horne, Edinburgh, and Professor G. A. Gibson, Glasgow, Degree of D.Sc.

The following arrangements recommended by the Senatus for advanced teaching in Physiology were approved :—(1) advanced course of Practical Physiology during February and March, fee £3, 3s. ; (2) advanced course of Practical Histology during the summer session, fee £2, 2s.

The Senatus reported that the Committee of the fund collected for the Liberal Memorial to Mr Gladstone had offered to the University of Edinburgh a biennial Prize of the value of £5 in books to be given for proficiency in History and Political Science and Economics, at the discretion of the Governing Body, and that they had accepted the offer.

The Court approved of a recommendation of the Senatus that Dr J. W. Ballantyne should be appointed for one year University Lecturer on Ante-Natal Pathology and Teratology, and that he should be authorised to deliver in the University a series of four lectures on this subject—the course to be given on consecutive Fridays, commencing in February next, and to be open, without fee, to all Members of the University and Practitioners of Medicine.

The following applications for Recognition were granted :—(1) Dr Stevenson Macadam, Edinburgh (Chemistry for Science Graduation) ; (2) Dr J. Wigglesworth, Liverpool, and the Lancashire County Asylum (Mental Diseases) ; (3) Queen's College, Kingston, Ontario, Canada (Public Health) ; (4) Westminster College, Cambridge (Divinity) ; (5) B. A. Degree of the University of Harvard (Law) ; (6) College of Law, University of Minnesota (Law).

It was intimated that the late Miss Janet Charles Brown, of 4 Spring Gardens, Abbeyhill, Edinburgh, had bequeathed to the University an Edinburgh Water Trust Annuity of £30 for the purpose of providing bursaries in the Faculty of Divinity.

MONDAY, 15TH JANUARY 1900.—Before proceeding with the ordinary business of the Court it was resolved to forward to the Most Honourable the Marquis of Dufferin and Ava, Rector of the University, an expression of sympathy on the occasion of the death of his son, the Earl of Ava, in consequence of wounds received in action in South Africa.

The Minutes of last Meeting were submitted and approved.

The Finance Committee having submitted the Report on the State of the Finances of the University for 1898-99 to the Secretary for Scotland under section 30 of the Universities (Scotland) Act, 1889, it was agreed to forward the Report to the Secretary for Scotland.

It having been reported that Henry M'Donald, fireman in the service of the University, had been called out as a Reservist, it was

agreed to find for him the same or a similar situation on his return. It was at the same time remitted to a committee to arrange for some provision being made for his family during his absence on active service.

On a report by a committee it was agreed to appoint the following additional Examiners, viz. :—1, Mr B. N. Peach, F.R.S., Edinburgh (Geology), for a period of four years; 2, Dr John Nisbet, London (Forestry), for a period of four years; 3, Dr C. O. Hawthorne, London (Materia Medica), for a period of four years; 4, Dr C. W. Macgillivray, Edinburgh (Clinical Surgery), for a period of four years, provided that during that time he continues in independent charge of wards in the Edinburgh Royal Infirmary; and 5, Dr John Barlow, Glasgow (Clinical Surgery), for a period of four years.

It was reported that copies had been sent to the other University Courts of Ordinance No. 1 of the University Court of the University of Edinburgh, under the Universities (Scotland) Act, 1889, section 21, providing for the separation of the teaching of Medical Jurisprudence or Forensic Medicine and Public Health in the University of Edinburgh.

A further gift by the Rev. Professor Gwatkin, D.D., Cambridge, of a collection of Molluscan Radulæ, was intimated and accepted, with thanks to the donor.

It was intimated that copies of Statistics of the Preliminary Examinations of September-October last had been received from the Joint Board of Examiners of the Scottish Universities.

A letter from Mrs Cox, widow of the late Robert Cox, Esquire, of Gorgie, M.P., was read intimating her desire to do something for the benefit of the University in which her father had taught for many years, and at the same time perpetuate his name in connection with the subject of Physiology, and, for this purpose, to immediately hand over a sum of £2000 to be applied to the building of a room or rooms for Practical Physiology, to be called the Hughes Bennett Laboratory of Physiological Research. In connection therewith, it was resolved as follows:—The Court learns with satisfaction that Mrs Cox proposes to hand over a sum of £2000 to be applied to the extension of the Laboratories of the Department of Physiology in the University, and it will have much pleasure in applying the money to that purpose. The Court accords most grateful thanks to Mrs Cox for the gift, and regards her request that the new Laboratory should be named the Hughes Bennett Laboratory of Physiological Research as an appropriate and worthy recognition of the services rendered by her father, who for twenty-six years occupied the distinguished position of Professor of the Institutes of Medicine and of Clinical Medicine in the University. A committee was appointed to consider the necessary arrangements towards the erection of the proposed Laboratory and to report.

MONDAY, 12TH FEBRUARY 1900.—The Minutes of last Meeting were submitted and approved.

On a report by a committee, it was agreed to appoint the following Additional Examiners, viz. :—P. Hume Brown, M.A., LL.D., Edinburgh (History); George Henderson, M.A., Ph.D., Edinburgh (Celtic); Dr Rudolf Hoernlé, Oxford (Sanskrit); Mons. Louis Barbé, Glasgow (French); George B. Gardiner, M.A., Edinburgh (German), each for a period of four years from 1st ult.

The Court, after consultation with the Senatus, approved of the regulations for the Blackie Celtic Prize, and agreed to accept the fund, amounting to £650, subscribed for the endowment of a prize in memory of the late Professor John Stuart Blackie, as offered to the Court by the Blackie Highland Memorial Committee.

On the recommendation of the Senatus, the Court approved of a course of instruction in Political Science by Mr D. P. Heatley, University Assistant in History, to be given during the summer session, and fixed the fee for the course at £1, 1s.

Dr John Gibson, Heriot-Watt College, Edinburgh, was appointed Additional Examiner in connection with a Thesis submitted for the Degree of D.Sc.

On the recommendation of the Senatus, an application by the Professor of Conveyancing for an extension of his leave of absence to the close of the current session, owing to the state of his health, was granted. The arrangements proposed for conducting the work of the Chair during the Professor's absence were approved.

An application for exemption from certain medical examinations, under Ordinance 56, iv., was granted.

In accordance with Standing Order 61, it was reported that a vacancy had occurred in the Chair of Medicine, owing to the death, on 3rd instant, of Professor Sir Thomas Grainger Stewart.

Dr Heron Watson was reappointed a Curator of Patronage for three years from 15th April next.

On the recommendation of the Professor, James Kerr, B.Sc., was appointed a University Assistant in Chemistry.

It was intimated that the Highland and Agricultural Society had agreed to continue their grant of £50 towards the Lectureship in Forestry, in the University for the current year.

On the motion of the Chair, a hearty vote of thanks was offered to Lord Stormonth Darling for his long, devoted, and invaluable service to the University Court, and an expression of their deep regret at the prospect of his retirement. The vote was suitably and warmly acknowledged by his Lordship.

MONDAY, 12TH MARCH 1900.—The Minutes of last Meeting were submitted and approved.

It was reported that the Rector had nominated Mr David Dundas, Q.C., Advocate, Edinburgh, as his Assessor in the University Court.

Mr Dundas was appointed a member of the Finance Committee and of the Business and Law Committee.

Reports by the Senatus under Ordinance No. 11, sections XIII. (1) and XXII. were submitted.

On the recommendation of the Senatus the Court granted leave of absence to the Professors of Greek and Materia Medica on account of ill-health, and approved of the arrangements made for conducting the duties connected with Chairs of Greek and Materia Medica, respectively.

On the recommendation of the Senatus, Mr Arthur H. Smith, M.A., of the Department of Antiquities, British Museum, was appointed substitute for the Additional Examiner in Classical Archæology in connection with the ensuing examinations, in the absence of Professor Gardner.

The Rev. A. H. Cook, M.A., King's College, Cambridge, was appointed Additional Examiner in connection with a Thesis submitted by a candidate for the Degree of D.Sc.

On the recommendation of the Senatus the Court approved of the following non-graduation courses of lectures by Mr D. P. Heatley, University Assistant in History :—(1) In the summer sessions 1900 and 1901, a course of fifty lectures on British History, General and Constitutional, 1066-1832; (2) in the winter session 1900-1901, a course of fifty lectures on European History, 1715-1848. The fee for each of these courses was fixed at £2, 2s.

The Court approved of a recommendation of the Senatus that an oral examination be held in French and in German for Graduation in Arts (pass and honours).

On the recommendation of the Senatus, the Court approved of the following grants being made from the Earl of Moray Endowment for purposes of original research :—(1) £20 to Mr Sutherland Simpson, (2) £50 to Dr Charles Chilton, (3) £100 to Professor Schäfer, (4) £10, 10s. to Mr Andrew Tweedie, M.A., B.D.

On the recommendation of the Faculty of Medicine, made on the ground of urgency, the Court, subject to the approval of the Senatus, agreed to grant leave of absence to Professor Chiene, who had agreed to accept the appointment of Senior Surgeon in charge of the Edinburgh South African Hospital. Subject to the same condition, the Court also approved of the arrangements for discharging the duties of the Chair of Surgery during the absence of the Professor.

The terms of the Commission which the Curators of Patronage propose to issue to the Professor who may be appointed to the vacant Chair of Medicine were revised and adjusted.

Mr J. J. Cook, Advocate, was reappointed University Lecturer on Civil and Criminal Procedure for a further period of five years, as from 15th October next.

Dr Joseph Bell and Professor Butcher were appointed representatives of the Court on the University Field Committee for the year from 15th current.



Mr Edward Matthew, M.B., Ch.B., was appointed a tutor in Clinical Medicine, in room of the late Dr Elder, for the remainder of the current academical year, as from 1st prox.

A bequest of books by the late Dr John Mackay, Cromarty, was intimated and cordially acknowledged.

A gift by the Scottish Musical Society of music books (about 200 volumes), purchased for presentation to the University of Edinburgh for the purposes of the Music Class Room Library, in connection with the Reid Chair of Music, was gratefully accepted.

Reports by the Finance, and Business and Law Committees were submitted and approved.

MONDAY, 16TH APRIL 1900.—The Most Honourable the Marquess of Dufferin and Ava, Rector of the University, who took his seat as a member of the Court, presided as *ex officio* President of the Meeting.

The Minutes of last Meeting were submitted and approved.

Reports of the Senatus, under Ordinance No. 11, sections xiii. and xxii., were submitted.

Thomas M. Burn Murdoch, Esq., M.B., C.M., was appointed University Lecturer on Diseases of Children.

It was resolved, after consultation with the Senatus, to admit women students to the University Class of Diseases of the Larynx, Ear, and Nose.

On the recommendation of the Senatus, the following grants were made from the Earl of Moray Endowment for purposes of original research:—£7 to Mr Charles Porter, £50 to Dr D. Berry Hart, £14 to Mr Evan H. Fraser, £32 to Mr J. D. Slight, £10 to Mr Chalmers Watson, £20 to Mr Percy T. Herring, £14 to Mr D. B. Waters, £20 to Mr Charles Menmuir, £50 to Dr C. G. Knott, and £10 to Mr George Robertson.

The Senatus reported various grants awarded by them from the William Dickson Travelling Fund.

On the recommendation of the Senatus it was agreed to appoint Dr Alexander Bruce, in the event of his services being required during the summer session, to discharge the duties of the Chair of Medicine in respect of Clinical Medicine, and the reading of Theses presented for the degree of M.D.

It was reported that Professor J. P. Wood had intimated his resignation of the Chair of Conveyancing as from 31st July next.

Receipt was intimated of (1) Government Grant of £100 towards the Lectureship in Forestry; and (2) grant from the Edinburgh School of Rural Economy of £130 towards the Lectureship in Agricultural Chemistry.

Various Reports by the Finance and Works Committees were submitted and approved.



## Miscellaneous.



I. EXAMINATIONS OF CANDIDATES FOR THE ARMY.—1 Graduates in Arts or in Science of this University, or anyone who has passed the Examinations for either of these degrees are eligible for Commissions in the Army. The limit of age is 17 to 23.

2. Students of this University who have passed "the Examination of Candidates for the Army," are also eligible for Commissions. They are required to attend one class in each of the following three Departments—viz., (a) Latin or Greek; (b) Logic or Moral Philosophy, or Rhetoric and English Literature; (c) Mathematics or Natural Philosophy,—and to pass the Examination on the M.A. standard, in the three subjects in which they have attended classes. The limit of age in this case is 17 to 22.

Candidates for Certificates must enter their names and pay the Fees at the *Matriculation Office* at the same time as the Candidates for the M.A. Examinations. The Fee for the Examination is two guineas.

### II. SUBJECTS OF EXAMINATION FOR STUDENTS OF DIVINITY AND CANDIDATES FOR LICENSE BY PRESBYTERY OF EDINBURGH.

Examination mainly in writing. An average of not less than 50 per cent. over all the subjects is necessary. Examinations held in the Examination Hall of the University.

1. *For Students entering the Divinity Hall.*—(1) Biblical Knowledge.—Genesis to 2 Samuel, and the Four Gospels; (2) The Shorter Catechism.

2. *For Students entering on their Second Year.*—(1) Latin.—Augustine—Enchiridion; (2) Greek.—The Epistle to the Colossians as in Lightfoot; (3) Hebrew.—Davidson's Grammar, 1-31; Genesis, i.-ix.; (4) Divinity.—Confession of Faith, 1-15; Flint's Theism; Row's Manual of Christian Evidences; (5) Biblical Knowledge.—1 Kings to Nehemiah, and Acts of the Apostles; (6) Church History.—History of the Church to 325 A.D.

3. *For Students entering on their Third Year.*—(1) Latin.—Anselm—Cur Deus Homo; (2) Greek.—St John's Gospel to be read critically, with discussions as to date and authorship; (3) Hebrew.—Davidson's Grammar, 32-49; Psalms i.-xv.; (4) Divinity.—Confession of Faith, 16-33; The Trinity; The Person of Christ; (5) Biblical Knowledge.—The Psalms and Isaiah; (6) Church History.—The Reformation Period, with special reference to Scotland.

4. *For Candidates for License*.—Scriptures of the Old and New Testaments, and History and Doctrine of the recognised Standards of the Church of Scotland.

GEORGE T. JAMIESON, *Cl. Presb. Edin.*

III. THE EDINBURGH UNIVERSITY UNION. — *President*—H. Crichton Miller, M.A. *Hon. Secretary*—J. M. Dupont. *Assistant Secretary*—P. F. M'Farlan. *Treasurer*—J. Walker, C.A., 25 Frederick Street. The *Committee of Management* consists of representatives from the *Senatus*, the *General Council*, and the *Student Members*.

The Union is open to all Students and Graduates of the University, and its purpose is "the provision and maintenance of means of social and academic intercourse for its members." The Building, which was erected and equipped at a cost of nearly £16,000, includes a large hall (in which Lectures are given, and debates are held weekly during the Winter Session), luncheon, smoking, reading-rooms, and billiard-room, is situated near both the old and the new buildings. The reading-room is amply supplied with newspapers, and with the weekly, monthly, and quarterly periodicals, both British and American; the billiard-room is furnished with two billiard tables, and the library contains University and Class Text-Books. Among Books of Reference is the latest edition of the *Encyclopædia Britannica*.

*Terms of Membership*.—By payment of an entrance fee of 5s. and an Annual Subscription of 10s. 6d. if a Matriculated Student, or £1, 1s. if a Graduate, University Assistant, or Lecturer.

*Affiliated Societies*.—E. U. Union English Public Schools Club; University of Edinburgh Photographic Society.

Many other University Societies have been granted certain privileges for the transaction of Business in the Union.

Full particulars as to affiliation, &c., on application to the Secretary at the Union. A series of Debates and Lectures are held during the Winter Session, including inter-University Debates with Cambridge Union Society and Glasgow University Union, and probably with Oxford Union Society.

#### IV. STATISTICS OF THE RECTORIAL ELECTIONS, 1859-1899.

- 1859.—*Gladstone*, 642.—*Neaves*, 527. Matriculated students, 1302.  
 1862.—*Gladstone* (*unopposed*). Matriculated students, 1331.  
 1865.—*Carlyle*, 657.—*Disraeli*, 310. Matriculated students, 1288.  
 1868.—*Moncreiff*, 607.—*Ruskin*, 425. Matriculated students, 1398.  
 1871.—*Maxwell*, 594.—*R. Palmer*, 502. Matriculated students, 1533.  
 1874.—*Derby*, 770.—*Playfair*, 583. Matriculated students, 1767.  
 1877.—*Hartington*, 932.—*Cross*, 684. Matriculated students, 2102.  
 1880.—*Rosebery*, 1024.—*Christison*, 985. Matriculated students, 2496.  
 1883.—*Northcote*—*Blackie*—*Trevelyan*. Matriculated students, 2660.  
 1886.—*Iddesleigh*, 1094.—*Playfair*, 747. Matriculated students, 2680.

- 1887.—*Lothian (unopposed)*. Matriculated students, 2493.  
 1890.—*Goschen*, 1378.—*Russell*, 805. Matriculated students, 3038.  
 1893.—*Robertson*, 1145.—*Reay*, 728. Matriculated students, 2649.  
 1896.—*Ballour*, 990.—*Haldane*, 771. Matriculated students, 2414.  
 1899.—*Dufferin*, 943.—*Asquith*, 686. Matriculated students, 2416.

V. ROYAL MEDICAL SOCIETY, EDINBURGH, 7 Melbourne Place. FOUNDED 1737. ROYAL CHARTER GRANTED 1778. *Presidents*—A. D. Fordyce, M.B., Ch.B.; W. J. Barclay, M.B., Ch.B.; J. D. Comrie, M.A., M.B., Ch.B., B.Sc.; George Mackie, M.B., Ch.B. *Secretaries*—L. C. P. Ritchie, F. D. Simpson. *Treasurer*—J. R. Young, Esq. *Sub-Librarian*—A. P. Ormiston.

The Society meets in its hall every Friday evening during the Winter at 9 o'clock. At these meetings dissertations on medical subjects are read and debated, and communications by members on subjects of interest discussed. The Society possesses a very fine library, containing about 30,000 volumes, which is constantly being added to, the catalogue of which was brought up to date in 1896. There are comfortable writing and reading-rooms with all the medical journals and periodicals, books of reference and text-books specially useful to students reading for examinations. The museum contains a complete collection of *Materia Medica* specimens, microscopic sections, pathological preparations, herbarium, and a surgical model, on which bandaging, setting of fractures, &c., may be practised.

VI. INTERNATIONAL-ACADEMIC COMMITTEES. A Committee appointed by the Senatus consisting of Professor Kirkpatrick (*Convener*), The Principal, Professors Chrystal, Eggeling, Sir L. J. Grant, Bart. (Secretary of Senatus), Dr Schlapp, Dr Sarolea, and the International-Academic Committee of the Students' Representative Council, will be happy to give information and advice to Foreigners desirous of studying in the University of Edinburgh, and to Edinburgh University Students intending to study in foreign universities. Inquiries may be addressed to either of these Committees.

VII. FRANCO-SCOTTISH SOCIETY. Inter-Academic Society for advising and assisting French students in Scotland and Scottish students in France. *Hon. Secretary*—A. A. Gordon, Esq., C.A., 128A George Street, Edinburgh.

VIII. ASSOCIATION FOR THE BETTER ENDOWMENT OF THE UNIVERSITY OF EDINBURGH. *President*—The Right Hon. Arthur James Balfour, D.C.L., LL.D., M.P., Chancellor of the University. *Vice-Presidents*—The Right Hon. The Earl of Wemyss, LL.D.; The Right Hon. The Earl of Stair, K.T.; The Right Hon. The Earl of Rosebery, K.G., K.T., LL.D.; Principal Sir William Muir, K.C.S.I., D.C.L., LL.D.

*Ordinary Members of Committee*—The Right Hon. The Lord Justice-General, LL.D.; R. Fitzroy Bell, Esq., Advocate; A. W. Black,

Esq.; John Boyd, Esq.; Sir Thomas J. Boyd; Professor Crum Brown, M.D.; Professor Butcher, LL.D.; John Carment, Esq., LL.D., S.S.C.; Professor Chiene, F.R.C.S.E.; D. Christison, Esq., M.D.; Sir Thomas Clark, Bart.; Archibald Constable, Esq.; Henry Cook, Esq., W.S.; Charles Cook, Esq., W.S.; Donald Crawford, Esq., Advocate; The Hon. Lord Stormonth-Darling, LL.D.; The Rev. Archibald Fleming; John Harrison, Esq.; James Hope, Esq., W.S.; A. Taylor Innes, Esq., Advocate; The Right Hon. Lord Kinnear, LL.D.; A. J. G. Mackay, Esq., LL.D., Advocate, Sheriff of Fife; Sir Andrew Mure; Charles Robertson, Esq., B.C.S.; Professor Seth Pringle Pattison, LL.D.; Robert Simson, Esq., B.C.S.; George Smith, Esq., LL.D., C.I.E.; James Walker, Esq. of Dalry. *Hon. Secretary*—Sir Alexander Christison, Bart., M.D. *Secretary*—Robert G. Scott, W.S., 6 Hill Street, Edinburgh.

*Local Honorary Secretaries*—A. Mercer Adam, Esq., M.D., Boston, Lincolnshire; Sir Dyce Duckworth, M.D., 11 Grafton Street, Piccadilly, London; Peter Gardner, Esq., W.S., 153 St Vincent Street, Glasgow; A. F. Hutchison, Esq., Stirling; James Tait, Esq., W.S., Kelso.

*Terms of Membership*—Life Subscription, One Guinea; no annual subscription. All friends of the University are invited to become members.

## IX. UNIVERSITY SOCIETIES AND CLUBS.

i.—THE AGRICULTURAL SOCIETY. ESTABLISHED 1858. *Hon. President*—Professor Cossar Ewart. *Presidents*—Mr J. N. Jack, Mr Samuel Simpson. *Secretary*—Mr D. S. Rabagliati. *Treasurer*—Mr W. J. Colebatch.

The Society meets weekly during the Winter Session, the day and hour being arranged at the first meeting in each session.

ii.—ASSOCIATED SOCIETIES OF THE UNIVERSITY. This Association was instituted in 1833, and is a Union of Literary and Debating Societies. It is composed at the present date of five societies:—The Dialectic, Scots Law, Diagnostic, Philomathic, and Celtic Societies. The following is the list of the Office-Bearers of the Association, and of the respective component societies:—

*Honorary President*—The Right Honourable the Earl of Rosebery. *Hon. Vice-Presidents*—The Senatus Academicus of the University (*ex-officiis*). *Secretary*—Andrew Smith, 44 Leamington Terrace.

(I.) DIALECTIC SOCIETY OF EDINBURGH. INSTITUTED IN 1787. *Presidents*—W. Davis Bowden, S. G. Kerr, J. H. Cattanach, C. G. Mackay, G. W. Chrystal. *Hon. Secretary*—K. D. Blaikie. *Hon. Treasurer*—W. A. Mowat.

The Society meets in the Associated Societies' Hall every Thursday evening at 8 o'clock, for the prosecution of Literary and Philosophical Composition, Criticism, and Debate.

(2.) SCOTS LAW SOCIETY. INSTITUTED IN 1815. *Presidents*—J. Lorne MacLeod, S.S.C.; R. S. Carmichael, Solicitor; William Mitchell, M.A., LL.B., Advocate. *Hon. Secretary*—Isaac Fürst, Solicitor, 11 Archibald Place. *Assistant-Secretary*—Ferguson Shinie, Solicitor, 36 Castle Street. *Treasurer and Librarian*—Fred. A. Schmidt, Solicitor.

This Society meets every Monday evening during the Winter Session, at 8.30 o'clock, in the Associated Societies' Hall, University, for the purpose of debating Legal and Speculative Questions and reading Essays.

(3.) THE DIAGNOSTIC SOCIETY. INSTITUTED IN 1816.—*Presidents*—G. E. R. Coldstream, A. B. Robb, C. Forbes Ridland, and Benjamin Bell. *Hon. Secretary*—J. A. D. Murdoch, 14 Napier Road. *Treasurer*—James Macdonald.

This Society meets every Tuesday evening, at 8.30 o'clock, beginning on Tuesday, 30th October 1900, for the purpose of holding debates and reading Essays.

(4.) PHILOMATHIC SOCIETY. INSTITUTED IN 1858. *Presidents*—M. F. Simpson, Andrew Smith, G. Douglas Veitch, B.A. (Oxon.). *Secretary*—A. W. M'Clymont, 103 Morningside Drive. *Assistant-Secretary*—W. A. Jolly. *Treasurer*—T. Maitland Jones, B.A. (Vict.).

This Society meets in the Societies' Hall every Friday evening during the Winter Session, at 8 P.M., for the purposes of debate and essay-reading; and is open to all gentlemen who are, or have been, Matriculated Students of the University of Edinburgh.

(5.) CELTIC SOCIETY. INSTITUTED 1848. *Honorary President*—Rev. R. Blair, M.A., D.D. *Presidents*—John MacNab, Neil Ross, W. H. Meikle, M.A. *Secretary*—A. M. M'Master, 16 Young Street. *Assistant-Secretary*—W. Sutherland. *Treasurer*—John Stewart.

This Society meets every Saturday evening during the Winter Session, at 7 o'clock P.M., in the Associated Societies' Hall. Students from Northern Counties cordially invited.

iii.—ATHLETIC CLUB. *President*—Mr P. C. De la Pryme. *Vice-President*—Mr K. Sutherland Græme. *Hon. Secretary*—Mr W. S. Nicholson. *Hon. Treasurer*—Mr C. E. W. Macpherson, C.A. *Sectional Secretaries*—FOOTBALL (Rugby)—Mr A. M'Nab; Do. (Soccer)—Mr J. M. L. Brown. CRICKET—Mr W. R. Reid. BOAT CLUB—Mr W. H. Eden-Brand. LAWN TENNIS—Mr A. J. Rowan. GOLF—Not known. BOXING—Mr W. F. Brayne. HARE AND HOUNDS—Mr A. J. Brydon.

Open to all Members and Graduates of the University, and to Members of the Extra-Mural School.

All communications should be addressed to the Hon. Secretary, E.U. Athletic Club, University Union.



iv.—CAITHNESS STUDENTS' ASSOCIATION. INSTITUTED IN 1856. *Honorary President*—His Grace the Duke of Portland. *President*—John G. Sutherland. *Secretary*—George A. Waters. *Treasurer*—D. K. Cunison.

This Association meets fortnightly, in the Education Class Room, on Saturdays, at 7 P.M., during the Winter Session, for the purpose of debating, for reading Essays, and for the advancement of education in Caithness.

v.—CHEMICAL SOCIETY. INSTITUTED 1874. (*Office-Bearers not communicated.*)

This Society holds fortnightly meetings, at 8 P.M., in the University Union, during the Winter Session, for the reading and discussion of papers on Chemistry and allied Sciences. Visitors welcome.

Excursions to Chemical Works, &c., during the Sessions.

vi.—DUMFRIESSHIRE AND GALLOWAY LITERARY SOCIETY. INSTITUTED 1847. *Presidents*—George Salmon, J. M'Murray, F. C. M'Clean, W. M. Henderson. *Joint-Secretaries*—T. M. Hunter, 25 Warrender Park Terrace; R. L. Innes, 1 Lauriston Park. *Treasurer*—Thomas Henderson, 7 Gillespie Crescent.

This Society is open to all Students who are connected with Dumfriesshire or Galloway, or to such others as may be admitted by unanimous consent at an ordinary meeting of the Society. The Society meets in the Public Law Class-Room of the University every Saturday during the Winter Session, at 7 P.M. Annual subscription, 2s. 6d.

vii.—FREE CHURCH STUDENTS' SOCIETY. INSTITUTED 1886. *Hon. President*—Rev. John Kelman, M.A. *Senior President*—Mr Norman Nicholson. *Junior President*—Mr A. L. Porter. *Secretary*—Mr D. M. Joss. *Assistant-Secretary*—Mr A. Duthie. *Treasurer*—Mr J. A. Cameron.

The Society is open to all past and present Free Church Students of the University of Edinburgh, and meets in the Elocution Class-Room, New College, Mound, every Saturday evening during the Winter Session, at 7 o'clock. Subscription for Membership, 2s.

viii.—GERMAN SOCIETY. *Honorary President*—Dr Otto Schlapp. *President*—Mr Lindsay Bashford. *Vice-President*—Mr D. H. Low. *Secretary*—Miss Middleton.

The Society was founded in October 1899, and has for its object the furthering of the study of German and of social intercourse amongst Students of German in the University of Edinburgh. The public business of the Society consists of debates, papers and dramatic readings. The Society meets fortnightly. Members must be students at the University. Annual subscription, 2s. 6d.



ix.—HISTORICAL SOCIETY. INSTITUTED 1897. *Hon. Presidents*—Prof. Kirkpatrick, Prof. Lodge. *Presidents*—J. Purves (senior), J. Ogilvie, W. T. Shaw. *Secretary*—C. M'Neil. *Assistant-Secretary*—T. J. M. Laing. *Treasurer*—A. C. Murphy. *Committee*—M. S. Shaw, Neil Ross.

This Society meets in the History Library every Wednesday, at 7.30 P.M., commencing last Wednesday in October, and ending first Wednesday in March, for the purpose of historical study and research, and of debating problems chiefly in modern and mediæval history. Subscription, 3s.

x. MISSIONARY ASSOCIATION. INSTITUTED 1825. — *Honorary President*—Principal Sir W. Muir, K.C.S.I., D.C.L. *Hon. Vice-Presidents*—The Marquis of Dufferin and Ava, G.C.S.I., D.C.L., LL.D., &c. (Rector), Professors Flint, Kennedy, and Patrick. *Honorary Treasurer*—W. Melville Sym, Esq., C.A. *President*—H. C. Duncan, M.A. *Vice-President*—A. Scott Ballantyne, M.A. *Secretary*—A. M. Anderson, M.A., 14 George Square, Edinburgh. *Assistant-Secretary*—David Heggie, M.A. *Assistant-Treasurer*—W. A. Curtis, M.A. *Librarian*—A. M. Anderson, M.A.

The Association meets in the Public Law Class-Room on alternate Saturdays, at 10 A.M.

xi.—MUSICAL SOCIETY. FOUNDED 1866-67.—*Patron*—H.R.H. The Reigning Duke of Saxe-Coburg and Gotha (The Duke of Edinburgh). *President*—Professor Niecks. *Vice-Presidents*—Principal Sir Wm. Muir, K.C.S.I.; Professors Annandale, Armstrong, Crum Brown, Butcher, Flint, Kirkpatrick, Lodge, Pringle Pattison, Schäfer, Sir Wm. Turner; Emeritus-Professors Sir Herbert S. Oakeley and D. Hepburn, M.D. *Hon. or Corresponding Vice-Presidents*—The President of Aberdeen University Musical Society; Professor Sir John Stainer, Oxford; Professor Villiers Stanford, Cambridge; and Professor Prout, Dublin. *Hon. Secretaries*—W. H. Elder and W. W. Johns, University Union. *Hon. Treasurer*—C. G. Knott, D.Sc. *Conductor*—James A. Moonie. The Chorus (male and female) meets for practice weekly in the Music Class-Room, Park Place, on Tuesdays, at 5.10 P.M. Subscription, 2s. 6d.

xii.—PHOTOGRAPHIC SOCIETY.—Fully equipped dark room in the Union. Exhibition held in February. Excursions in the summer term. For full information apply to Hon. Secretary, the Union. *President*—Dr Drinkwater. *Vice-President*—E. U. Horsburgh. *Hon. Treasurer*—W. Brown. *Secretary*—J. Struthers Stewart.

xiii.—RIFLE COMPANY SHOOTING CLUB. INSTITUTED 1873.—*Honorary Presidents*—Lieut.-Colonel Sir Wm. Turner and Professor

Balfour. *President*—Captain Hope. *Vice-President*—Lieutenants Jamieson, Adams, and Jones. *Sec. and Treas.*—A. Campbell Geddes, University Union. This Club is open to members of No. 4 (University) Company, Q.R.V.B., R.S. The Club superintends the shooting of the Company. Weekly competitions are held at Hunters' Bog, and an Annual Prize Competition in July, at which numerous prizes are given. A silver teaspoon is given for each weekly competition.

xiv.—SCOTTISH INTER-UNIVERSITY RIFLE MATCH. INSTITUTED 1880.—*Edinburgh Committee*—Captain J. A. Hope; Colour-Sergeant A. N. Bond; Lance-Corporal A. Campbell Geddes, Q.R.V.B., R.S.; Corporals Strathairn and Tillard, E.C.V.A.; First-Class Staff Sergeant A. W. Limont, V.M.S.C. *Hon. Secretary*—Lance-Corporal A. Campbell Geddes, Q.R.V.B., R.S., University Union. The Inter-University Challenge Trophy is shot for annually by the four Scottish Universities in rotation, at Edinburgh, Glasgow, Montrose, and Aberdeen. Each University sends a team of ten men, of whom at least five must be matriculated students at the date of the match, and the remainder must have attended a class in the University for at least one Session. Students willing to shoot are requested to communicate with the Secretary.

xv.—SHINTY CLUB. INSTITUTED 1891.—*Captain*—Malcolm M. McInnes, M.A., LL.B. *Vice-Captain*—E. Ross. *Secretary and Treasurer*—W. Forsyth, 19 Raeburn Place, Edinburgh.

The Club meets for practice during the Winter Session on Saturdays, at 1.30 P.M., at Inverleith Park.

xvi.—THEOLOGICAL SOCIETY. INSTITUTED 1776.—*Honorary Presidents*—Rev. Professor Flint, LL.D., D.D.; Rev. Professor Taylor, D.D.; Rev. Professor Kennedy, D.D.; Rev. Professor Patrick, D.D. *Senior President*—W. A. Curtis, M.A. *Presidents*—James Kirk, M.A.; W. A. Dunnett, M.A.; H. C. Duncan, M.A. *Secretary*—Oswald B. Milligan, M.A. *Treasurer*—W. A. Mowat, M.A.

Membership is open to present and to past Students of Theology at this University. The Society meets in the Biblical Criticism Class-Room on Friday evenings during the Winter Session, at 8 P.M., for essays, debates, and discussions on subjects of Theological and Ecclesiastical interest.

xvii.—TOTAL ABSTINENCE SOCIETY. INSTITUTED 1853.—*Honorary President*—Dr P. A. Young. *Honorary Vice-Presidents*—Dr J. O. Affleck; Emeritus-Prof. Charteris; Dr T. Brown Darling; Charles J. Guthrie, Esq.; Dr J. Shaw McLaren; Dr A. G. Miller; R. L. Orr, Esq.; Professor A. R. Simpson, M.D. *Honorary Treasurer*—H. S. Hope Gill, C.A. *Auditor*—R. S. Craig, Solicitor. *President*—G. Duncan Whyte. *Vice-President*—Y. Fukuda. *Secretary*—P. J.

Hay, Ramsay Lodge. *Assistant-Secretary*—Miss E. T. Selkirk, 19 Mayfield Gardens. *Treasurer*—A. Miller, 7 Coates Crescent.

The condition of membership is total abstinence for the current academic year, “ab Octobre ad Octobrem.” All Students who are abstainers are eligible as members.

xviii.—UNIVERSITY BATTERY, E.C.V. ARTILLERY.—*Captain*—H. Overton Hobson. *Lieutenants*—A. T. Masterman, F. P. Dods. *Sergeant-Major*—C. J. H. Lauchlan. *Sergeants*—F. A. Gray, A. C. Balfour, H. C. Miller. *Corporal*—Macfarlane. *Hon. Secretary and Treasurer*—Gunner R. G. Gordon, University Union.

xix. — NO. 4 (UNIVERSITY) COMPANY, THE QUEEN'S RIFLE VOLUNTEER BRIGADE, THE ROYAL SCOTS.—*Captain*—J. A. Hope, M.A., LL.B., W.S., 119 Princes Street. *Lieutenants*—J. B. Jamieson, M.B., C.M., 43 George Square; P. G. W. Adams (on active service) Australasian Club; A. E. L. Jones, 9 Lennox Street.

The Company is the oldest Volunteer corps in the University, and the first formed company in Scotland. It is open to past and present members of the University. It numbers 170, possesses a Maxim gun, and a mounted infantry section. Company drills are in winter, under cover. Numerous field days and camps are held. University men wishing to join can get information from any of the officers. Recruits taken at any time.

xx.—EDINBURGH UNIVERSITY CHRISTIAN UNION.—The object of the Union is to form a bond of union between students whose principles and aims in life are Christian, and to promote the spread of Christ's Kingdom in the University.

It welcomes as members all students at the University or School of Medicine who acknowledge Jesus Christ as God the Son, and only Saviour of the world.

Although the E.U.C.U. seeks to deepen and render more visible the power and love of Christ in its members, by such means as short Daily Prayer Meetings and Bible Circles (groups of men meeting together week by week for the practical study of God's word); and to promote Christian effort by its members, by providing such spheres of activity as services in the Wards of the Infirmary and Sick Children's Hospital, in the Poorhouse and in Lodging-Houses, yet taking part in such work is not a condition of membership.

The Union is affiliated to the British College Christian Union (comprising Christian Unions in 116 different student centres in Great Britain and Ireland), and through it forms part of the World's Student Christian Federation, which links together the student movements of South Africa, Australasia, India and Ceylon, China, Japan, Germany, France (with the Netherlands and Switzerland), the Intercollegiate movement of the United States, and other National and International Student Christian movements.

The Union comprises three sections (for Arts, for Theological, and for Medical Students), the work of each being controlled by a Sectional Committee with Convener, Secretary, and other office-bearers.

During the winter 1900-1901 services addressed by well-known speakers from different parts of the country will be held in a hall near the University.

The office-bearers are as follows:—*Honorary President*—Professor Simpson. *Honorary Vice-Presidents*—

*President*—C. W. G. Taylor. *Vice-President*—R. E. Russell. *Convener of the Arts Section*—J. R. Cuthbert. *Secretary of the Arts Section*—J. C. D. Allen. *Convener of the Medical Section*—R. A. Glegg. *Secretary of the Medical Section*—R. P. M'Neil.

The General Secretary is in attendance daily at the Offices of the Union, 19 Marshall Street.

xxi.—UNIVERSITY U.P. STUDENTS' SOCIETY. INSTITUTED 1843.—*Honorary Presidents*—Professor Crum Brown, M.D., LL.D.; Rev. John Hutchison, D.D.; Rev. A. B. Cameron, D.D.; Rev. J. W. Dunbar, M.A. *President*—R. G. Paterson. *Vice-Presidents*—J. R. Hutton and E. Lawson. *Secretary*—James Reid, c/o Hutchison, 5 Argyle Park Terrace. *Treasurer*—Peter M'Ewan.

The Society meets every Saturday evening during the Winter Session, in the College Buildings, Castle Terrace, at 7 o'clock.

xxii.—PHILOSOPHICAL SOCIETY. INSTITUTED 1871.—This Society meets in the Honours Class Reading Room every Wednesday evening during the Winter Session, at 8.15 P.M., for Philosophical Criticism and Investigation. *Hon. Secretary*—Alexander Darroch, 13 Panmure Place.

xxiii.—STUDENTS' VOLUNTEER MISSIONARY UNION (Edinburgh Branch).—The ranks of this Association are open to all Students who look forward to engaging in Foreign Missionary Work and who sign the declaration of the Union—"It is my purpose, if God permit, to become a foreign Missionary." Its objects are to band such students together and to bring the claims of the Foreign Mission Field before other Christian Students. It seeks to promote systematic study of Missions and arranges for a monthly Missionary Meeting during the Winter Session. A fortnightly meeting of Members is also held.

*President*—Y. Fukuda. *Secretary*—J. M. B. Duncan, 22 Blantyre Terrace. *Librarian*—A. F. Jack. *Treasurer*—H. E. Wareham, 27 Mayfield Terrace.

xxiv.—WOMEN'S CHRISTIAN UNION.—*Honorary President*—Miss Louisa Stevenson. *Hon. Vice-Presidents*—Mrs Baldwin Brown, Mrs Calderwood, Mrs Charteris, Mrs Marcus Dods, Hon. Mrs Goodhart, Mrs Kelman, Miss Lorimer, Miss Nairn, M.A., Mrs Sandeman, Miss

F. Simpson, M.A., Mrs Whyte. *President*—Miss M'Ewen. *Vice-Presidents*—Miss Rait, Miss Macnair. *General Secretary*—Miss Riach, 13 Albert Terrace. *Treasurer*—Miss Ross.

The work is carried on by means of weekly Bible circles which meet in the Masson Hall, and other social and religious meetings.

Membership is open to all Matriculated women students of the University of Edinburgh, present and past, the annual subscription being 1s.

xxv.—WOMEN'S DEBATING SOCIETY. INSTITUTED 1893.—*President*—Mary G. Williamson. *Vice-Presidents*—Louisa R. Boyd, M.A. Marion J. G. Redpath. *Secretary*—Carrie Rait, Masson Hall, 31 George Square. *Treasurer*—Edith Riach.

The Society meets every alternate Friday during the Winter Session, at 5 P.M., within the University, for Debate and Literary Criticism.

## RESIDENCES AND BOARD FOR STUDENTS.

(*Not under the control of the University Authorities.*)

### I. FOR MEN STUDENTS.

UNIVERSITY HALL, ST GILES' HOUSE (22 St Giles' Street); RIDDLE'S COURT (5 Victoria Terrace); RAMSAY LODGE (Ramsay Garden); and BLACKIE HOUSE (8 North Bank Street). University Hall is designed as a social residence for Students, Graduates, and others connected with the University. The above houses are all within five minutes' walk of the University; they include common rooms, private studies, and bedrooms. The rents range from 8s. to 18s. per week, payable by term or monthly in advance, and the board averages about 14s. per week, payable at the end of each fortnight.

The external affairs of the Hall are in the hands of The Town and Gown Association, Limited.

The internal arrangements of each house are managed by a committee of the residents elected monthly. When desired, young Students can be placed under the care of one of the resident tutors, the Rev. H. H. Flower, Pittodrie House, Ramsay Garden, and others. In some of the chambers and larger houses occupied by teachers, graduates, &c., Students can be received as pupils and boarders.

Application for rooms should be made at the different houses. Application for information with regard to general questions on University Hall should be made to Messrs Whitson & Methuen, C.A., 26 Hill Street, Edinburgh.

### II. FOR WOMEN STUDENTS.

(1.)—MASSON HALL, 31 GEORGE SQUARE. INSTITUTED 1897.—*Hon. President*—Principal Sir William Muir, K.C.S.I. *President*—

Miss Houldsworth. *Hon. Treasurer*—Miss S. E. S. Mair. *Warden*—Miss F. H. Simson, M.A. *Hon. Secretary*—Miss Louisa Stevenson, 13 Randolph Crescent, Edinburgh.

This Hall is situated in convenient proximity to the University and Medical Schools.

Non-resident students may become members of the Hall by a small annual subscription, and have access to the Library and to the Dining-Hall where meals are provided at moderate rates.

Terms for Board and Residence may be had on application to the Warden, or to the Hon. Secretary. A room for Students' Meetings can be provided by arrangement.

(2.)—THE MUIR HALL FOR STUDENTS OF MEDICINE, 12 GEORGE SQUARE.—*President*—Sir William Muir, K.C.S.I. *Vice-Presidents*—Mrs Findlay of Aberlour; Rt. Hon. Lord Pearson. *Honorary Treasurer*—Mrs Marcus Dods. *Honorary Secretary*—Miss Inglis, M.B., C.M. *Lady Superintendent*—Miss Robertson.

The Hall is managed by a Lady Superintendent, is under the direction of a Committee of Management, and contains two Common Rooms, besides Private Rooms for Residents, and Bath Rooms on each Floor. The Private Rooms are arranged as Study Bedrooms, and the charge varies according to the size and outlook, from 16s. 6d. to 25s. a week, including Board. Students who remain for examination after the Session has ended are charged 1s. 6d. a week extra. Half Rents during the Christmas and Spring Vacations, to Residents who wish to retain their Rooms. The Residents have the use of the Square Gardens, where there are Tennis Courts. For particulars apply to the Lady Superintendent.



# General Index.

*Arranged as far as possible under Faculties.*

	PAGE		PAGE
Academic Costume.....	30	Arts, Faculty of—	
Accounts, University, Abstract of	844	Bursaries—	
Addresses of Professors .....	xxix	Dundas (17).....	158
„ Emeriti Professors.....	xxx	East Lothian (54) .....	159
„ Professors resigned .....	xxx	Assoc. for Univ. Education	
„ Lecturers.....	xxxi	of Women.....	198
Agricultural Society.....	868	Houldsworth.....	199
Appeal for Funds .....	830	Victoria Jubilee.....	198
Army, Examinations for .....	868	Zetland .....	199
Arts, Faculty of .....	2, 18, 58	Fairbairn (66) .....	160
Academic Year.....	105	Ford (10).....	157
Advice to Students regarding		Fotheringham and Forrest	
Curricula .....	104	(52).....	159, 196
Boards of Studies.....	112	Fraser (18) .....	158, 197
Bursaries in Arts and Condi-		Fraser (Donald) (74).....	160
tions of Tenure <sup>1</sup> —		Gillan (55) .....	159
Allan (65) .....	160	Glenbuck (68) .....	160
Angus Club (45).....	159	Grant (21) .....	158
Ardvorlich (42) .....	159	Grierson (47) .....	159
Argyllshire (41).....	159	Harrison (38) .....	159
Ayrshire (32).....	158, 196	Heriot (1).....	157, 197
Baxter of Balgavies (75) 160, 195		Heriot (for Women).....	157, 198
Blair (25) .....	158	Heriot (for Women studying	
Border Association and		Medicine) .....	157, 198
Sir Walter Scott (40) 159, 199		Heriot High School (1).....	157, 198
Brown (15).....	158	Horsliehill-Scott (37).....	159, 200
Bruce (29).....	158	Hume (19).....	158
Bryson (13) .....	157	Jamieson (26).....	158
Buchanan .....	199	Jardine (Bidder) (27) .....	158, 195
Caithness Assoc. (34).....	158	Jardine (Thorlieshope) (67)	
Callander and Trossachs (76)		160, 196	
160		Johnston, A. (2) .....	157, 197
Chrystie (12).....	157	Johnstone, R. (5, 6) .....	157
County Club and Private		Johnstone of Harthope (49)	
Bursaries.....	194	159	
Cousin (72) .....	160, 195	Lambert (50).....	159
Cowan (43) .....	159, 195	Lanarkshire (48) .....	159
Dalglish and Macmorran (8) 157		Lennie (28) .....	158
Dow (24) .....	158	M <sup>c</sup> Diarmid (30).....	158

<sup>1</sup> The figures in parentheses refer to the numbers of the Foundations.

	PAGE		PAGE
Arts, Faculty of—		Arts, Faculty of—	
Bursaries—		Courses in Arts—	
Macdougall (62).....	159, 198	Astronomy.....	96
M'Glashan.....	199	Botany.....	96
Mackenzie (69).....	160, 195	Celtic.....	78
Mackinnon (59).....	159, 196	Chemistry.....	96
Maclaurin (70).....	160	Classical Archaeology.....	71
Mann (64).....	160, 196	Dynamics.....	94
Marshall (51).....	159, 196	Education.....	85
Maule (73).....	160, 196	English.....	72
Menzies (23).....	158	Fine Art.....	101
Millar (20).....	158	French.....	74
Mitchell and Short (16).....	158, 197	Geology.....	97
Newton (63).....	160	German.....	76
Orkney and Zetland (46).....	159	Greek.....	68
Patrick (31).....	158, 195	Hebrew and Semitic Lan- guages.....	78
Patterson (57).....	159	History, British.....	97, 100
Peeblesshire (33).....	158	,, Constitutional.....	102
Penman, J. (9).....	157	,, Ecclesiastical.....	102
Pringle and Wardrop (14).....	157	,, European.....	100
Private Bursaries.....	194	,, Roman.....	102
Ramsay (11).....	157	Italian.....	75
Renton (61).....	159, 197	Latin.....	65
Rhind (35).....	159	Logic and Metaphysics.....	79
Sibbald (44).....	159, 196	Mathematics.....	88
Simson (71).....	160, 198	Moral Philosophy.....	82
Spence (39).....	159, 200	Natural Philosophy.....	91, 95
Stewart (76).....	160	Natural Theology.....	87
Stuart (22).....	158	Philosophy of Law.....	87
Thomson (56).....	159, 196	Physics (Experimental).....	95
Town Council Bursaries.....	194	Political Economy.....	83
Trotter and Penman (3).....	157, 197	Public International Law.....	103
Tyndall Bruce (36).....	159, 195, 200	Sanskrit and Comparative Philology.....	77
University Endowment.....	196	Zoology.....	96
Weir, Jenkins, Hepburn, and Lightbody (7).....	157	Curriculum.....	105, 108
Welsh, John (Carlyle) (58).....	159, 194	,, for Women.....	114
Whitelaw (60).....	159, 195	Period of Study.....	105
Wight, M'Call, and Christie (4).....	157	Preliminary Examination..	105
Zetland, Earl of (53).....	159, 197	Fee, Dates of Entering, and Time-Tables for Prelimin- ary.....	121
Honours List for Bursaries, 1899.....	149	Preliminary Exam. papers...497	
Exam. Papers for.....	497	Joint Board of Examiners...433	
Additional Papers.....	561	Additional Regulis. by Joint Board for Preliminary.....	434
Open 1900-1901.....	192	Exams. accepted as equiva- lent for Preliminary.....	436
Payable by Factor.....	201	Ordinary Degree of M. A.....	108
Classes, Programme of, and Fees.....	58	Boards of Studies.....	112
Class Prize and Honour Lists	443		

	PAGE
Arts, Faculty of—	
Curriculum—	
Fees for Exams. ....	124
Dates of entering for Exams. ....	124
Time-Table of Exams. ....	126
Outline of Examinations. ....	128
Examination Papers. ....	587
Honours Degree ....	109
„ Outline of Exams. ....	136
„ Examin. Papers ....	645
Graduates in 1899-1900. ....	155
„ with Honours, Lists of ....	152
Sponsio Academica ....	152
Special Study and Research ....	115
Higher Degrees ....	117
D. Litt. ....	119
D. Phil. ....	118
D. Sc. ....	117
Conferred ....	151
Fellowships—	
Guthrie ....	185
Hamilton ....	186
Heriot ....	186, 188
Shaw ....	186
Swiney Lect. in Geology. ....	188
Open in 1900-1901. ....	188
Payment of. ....	201
Prizes —	
Bruce. ....	171, 192
Cousin. ....	172, 192
Dickson Travelling Fund. ....	187
Edinburgh University Club	
(London). ....	171
Franco-Scottish Society ....	192
Gray. ....	172, 192
Hamilton ....	192
Kelland ....	172, 192
Moray Bequest for Research	
.....	187
Neil Arnott. ....	177, 192
Newton (64). ....	160, 192
Rector's ....	171, 191
Scott and Dunbar. ....	172, 192
Open in 1900-1901. ....	188
Payment of. ....	201
Scholarships—	
Arnott, Neil. ....	177, 191
Baxter (Sir D.), Mathematics	
.....	173
Philosophical ....	174
Baxter (J. E.) in Classics ...	174

	PAGE
Arts, Faculty of—	
Scholarships—	
Baxter in Mental Philosophy	
.....	174
in Mathematics ....	173
Bruce, Classics. ....	175, 189
„ Mental Philosophy. ....	175
„ Mathematics ....	175
Drummond ....	174
Dunlop, Vans. ....	173, 189
Ferguson ....	178, 191
Fettes Exhibitions. ....	176
Gilchrist. ....	176
Gray ....	176
Heriot Travelling in Mod.	
Languages ....	185, 191
Lang. ....	183
Mackay Smith ....	183
Mackenzie ....	173, 189
MacLaren. ....	177
Macpherson. ....	184, 191
Nichol ....	184
Pitt Club ....	173, 189
Rhind. ....	176, 189
Ritchie ....	184, 191
Scott ....	183, 191
Skirving ....	182
Vans Dunlop Gen. Regs. ....	178
Classics. ....	179
Commer. & Pol. Econ. ....	180, 189
English Lit. and Poetry ....	179
Hebrew ....	181
History ....	182, 189
Logic and Metaphysics ....	180, 190
Mathematics. ....	181, 190
Moral Philosophy. ....	182, 189
Nat. Philosophy. ....	181, 190
Sanskrit, &c. ....	182
Vacant 1900-1901. ....	189
Payable by Factor. ....	201
Schoolmaster's Diploma. ....	146
Exam. Papers for. ....	623
Diplomas conferred, 1899-1900	
.....	156
Arts' Students' Christian Asso. ....	876
Assessors. ....	1, 14
Assistants, University. ....	5
Associated Societies. ....	868
Association for better endowment	
of the University ....	867
Athletic Club. ....	869
Auditor ....	1

	PAGE		PAGE
Benefactors of University .....	830	Curricula—	
„ Portraits and Busts of .....	53	Medicine .....	373, 388
Bequests and Donations during		Music .....	427, 428
1899-1900 .....	842	Science .....	232
Boards of Studies .....	112		
Botanic Garden, Royal .....	57	Deans of Faculties .....	2, 3, 4
Buildings, University .....	34	Degrees in Arts Regulations for .....	105
Bursaries. <i>See</i> under the various		Classes .....	58
Faculties.		Outline of Exams .....	128, 136
		Examination Papers for .....	587, 645
		conferred, 1899-1900 .....	151, 155
Caithness Society .....	870	„ in Divinity—	
Calendar, University .....	xiii-xxvii	Classes .....	279
Celtic Society .....	869	Outline of Courses .....	291
Ceremon., Ann. Graduation, &c. .....	30	Curriculum for Ministers	
Chairs .....	2	of Church of Scotland .....	250
Chancellor .....	1, 10	(B.D.), Regulations .....	286
Charter of University .....	10	Subjects of Exam. ....	287
Chemical Society .....	870	Examination Papers for .....	788
Church of Scot., curriculum for		conferred, 1899-1900 .....	289
	280	(D.D.) honorary .....	290
Civil Service Commission Exam-		„ in Law .....	312
inations .....	109	Classes .....	305
Classes, Programmes of—		Outline of Courses .....	306
Arts .....	58	LL.B. Regulations .....	312
Divinity .....	279	B.L. Regulations .....	313
Law .....	305	Subjects of Exam. ....	315
Medicine .....	331	Dates of Examination .....	316
Music .....	426	conferred, 1899-1900 .....	319, 320
Science .....	201	Exam. Papers .....	799
Opening of New .....	33	(LL.D.) honorary .....	323
Classical Library .....	51	„ in Medicine—	
Clerk .....	1, 9	Classes .....	331
Clerks, Assistant .....	1, 9	Regulations (for M.B.,	
Clerk of Works .....	9	Ch.B., M.D., Ch.M.) .....	357
Clubs, University .....	868	Preliminary Examina-	
Costume, University .....	30	tion .....	357
Copying at Exams., Penalties for .....	30	Papers for .....	574
Council, General, of the Uni-		Professional Exams .....	365
versity .....	9, 25	Papers for .....	812
„ Gen. Med., Representative in .....	16	conferred in 1899-1900	
„ Students' Representative .....	26		393, 401, 402
Courses of Lectures. <i>See</i> under		„ in Music—	
the various Faculties.		Classes .....	426
Court, University .....	1, 12, 31	Regulations for Degrees .....	427
„ Regulations of .....	31	conferred in 1899 .....	431
„ Abstract of Proceedings of .....	854	Examination Papers .....	827
Curators of Patronage .....	2, 15	Hon. Mus. Doc. ....	429
Curricula—		„ in Science—	
Arts .....	108	Classes .....	202
Divinity .....	280	Regulations .....	230
Law .....	312		

	PAGE		PAGE
Degrees <i>in Arts</i> Regulations for—		Divinity, Faculty of—	
Outline of Examinations 239,		Courses .....	281
248, 252, 259		Arabic .....	283
Examination Papers.....753		Biblical Criticism and Bib-	
conferred in 1899-1900.....268		lical Antiquities.....285	
Diagnostic Society.....869		Divinity .....	280
Dialectic Society.....868		Ecclesiastical History.....284	
Dickson, W., Travel. Fund.....187		Hebrew .....	282
Diplomas, Cost of—		Natural Science, Gunning	
Arts.....124		Lectureship in.....286	
Divinity, B.D.....288		Natural Theology, Gifford	
Law, LL.B., B.L.....316		Lectures in.....285	
Medicine.....379, 391		Syriac .....	284
Music.....430		Curriculum .....	280
Science .....	263	Examination of Candidates for	
Discipline .....	30	License by Presb. of Edin....865	
Divinity, Faculty of—		Graduation in .....	286
Bursaries and conditions of		Subjects of Examination.....287	
tenure <sup>1</sup> —		Time-Table of Examinations	
Alexander (3) .....	291	and dates of Entering.....289	
Bayne (1) .....	295	Examination Papers.....788	
Blair (4, 5) .....	291	Fees for B.D.....288	
Buchanan (1) .....	292, 301	Graduates, 1899-1900 .....	289
Ettles (5) .....	292, 301	Hon. Graduates, List of (D.D.) 290	
Grant (1) .....	296	Prizes—	
Grierson (6) .....	292, 301	Barty Memorial.....296, 302	
Hepburn (10, 11, 12) ...292, 302		Dickson Travelling Fund. ...303	
Hunter (14).....292, 303		Gray .....	304
Jamieson (2) .....	296	Gunning.....296	
King William (4).....292, 303		Hepburn .....	296, 302
Lockerby (16) .....	292	Moray Bequest for Research 303	
Maclaurin (4).....296		Rector's .....	303
M'Lurg and Penman (2) 291, 301		Open in 1900-1901 .....	301
Mylne (9) .....	292	Scholarships—	
Nairne, A. (1) .....	291	Aitken .....	298
Nairne, J. (2).....295, 301		Bruce.....299	
Ramsay (3).....292		Cobb .....	300
Renton (13).....292, 301		Glover.....298	
Sharp (17) .....	292	Gray .....	300
Sibbald (3).....296		Jeffrey .....	300, 303
Simson (15).....292, 302		Kidd .....	299
Struthers and Leighton (2) 292,		Maxton .....	298
301		Pitt Club.....297, 303	
Thomson (8).....292, 301		Vans Dunlop, in Hebrew, &c. 299	
Webster (7).....292, 301		in History.....299	
Open in 1900-1901 .....	301	Open in 1900-1901 .....	301
Payable by Factor .....	304	Donations and Bequests during	
Class and Prize Lists .....	461	1899-1900 .....	842
Classes, Programme of .....	279	Dumfries and Galloway Lit. Soc. 870	

<sup>1</sup> The figures in parentheses refer to the numbers of the Foundation.

	PAGE		PAGE
Endowments, University.....	844	Fees for Classes—	
Association for better Endow-		Arts.....	58
ment of University .....	867	Divinity .....	279
Entrance Fee.....	29	Law.....	305
Exams., Outline of Subjects of—		Medicine.....	331
Arts.....	128	Music.....	426
Divinity .....	287	Science.....	263
Law.....	315	Fees for Degrees, &c.—	
Medicine.....	376	Arts.....	124
Music.....	428	Divinity .....	288
Preliminary.....	105, 430	Law.....	316
Science.....	239, 248, 252, 259	Medicine.....	379, 391
Dates of entering for and		Music.....	430
payment of Fees for Pre-		Science.....	263
liminary Examination and		Schoolmaster's Diploma .....	147
for Examinations for De-		for Laboratory Work..60, 205, 336	
grees—		General Council.....	25
Arts.....	124	Entrance.....	29
Divinity .....	289	Fellowships. <i>See</i> under the vari-	
Law.....	316	ous Faculties.	
Medicine .....	380, 388	Foundation, New.....	828
Music.....	431	Franco-Scottish Society.....	867
Preliminary.....	121, 264	Free Church Society.....	870
Science.....	265	Funds, Univ. Statement of.....	844
Examination Papers—		Gen. Council of the Univer. ....	9, 25
Preliminary.....	497	Geology, Swinney Lectureship in..	276
Bursaries .....	497, 561	German Society.....	870
Arts.....	587, 645	Gifford Lectures on Natural	
Divinity .....	788	Theology .....	285
Law.....	799	Gold Medallists.....	392
Medicine.....	812	Graduation, Regulations for—	
Music.....	827	Arts.....	105
Science.....	753	Divinity .....	286
Schoolmaster's Diploma.....	623	Law.....	312
Examiners for Degrees.....	6, 30	Medicine (New).....	357
Appointment of.....	32	(Old).....	388
Absence of.....	32	Music.....	427
Examinerships, Applications for	32	Science.....	232, 244, 250, 255
Extra - Academical Lecturers,		Ceremonials, Precedence at....	30
Rules for Recognition of.....	33	Gunning Lect. in Nat. Sc.....	286
,, recognised by University		Historical Society.....	871
Court.....	384	Honorary Degrees in—	
Faculties .....	2, 3, 4, 18	Divinity .....	290
Arts.....	2, 18	Law.....	320
Divinity .....	3, 21	Music.....	428
Law.....	3, 22	Income and Expenditure of Uni-	
Medicine.....	4, 23	versity .....	844
Music.....	4, 24	India, Civil Service Com. Exams.	109
Science.....	3, 20		
Factor for University.....	1		



	PAGE		PAGE
Inter. Academic Committee .....	867	Law, Faculty of—	
Inter-Univ. (Scottish) Rifle		Conveyancing .....	307
Match .....	872	Forensic Medicine .....	310
Janitor .....	9	International Private Law .....	310
Joint Board of Examiners for		Procedure and Law of Evi-	
Preliminary Examination .....	433	dence .....	310
Keepers of Museums .....	9	Public Law .....	308
Laboratories—		Scots Law .....	306
Agriculture .....	208	Graduation, Regulations for .....	312
Anatomy .....	208, 336	LL. B. ....	312
Astronomy .....	65, 208	B. L. ....	313
Botanical .....	208, 336	Prelim. Exam. for B. L. ....	315
Chemical .....	208, 336	Outline of Examinations for	
Engineering .....	207	LL. B. and B. L. ....	315
Forensic Medicine .....	337	Dates of Entry for Exams.	
Geological .....	207	and payment of Fees .....	316
Materia Medica .....	337	Examination Papers .....	799
Natural History .....	208, 337	Fees for Degrees .....	316
Obstetrical and Gynecol-		Graduates, LL. B. ....	317
ogical .....	336	"    B. L. ....	319
Pathological .....	337	Hon. Graduates, LL. D. ....	320
Physical .....	65, 207	Prizes—	
Physiological .....	208, 336	Dickson Travel. Fund .....	187, 327, 329
Practice of Physic .....	336	Forensic .....	327, 330
Public Health .....	209, 337	Gray .....	192
Surgical .....	337	Moray Bequest for Research .....	187, 327, 329
Fees .....	65, 208, 336	Muirhead .....	327, 330
Law, Faculty of—		Rector's .....	191
Bursaries and conditions of		Open in 1900-1901 .....	330
tenure .....	323	Payable by Factor .....	330
Allan (5) .....	324	Scholarships—	
Baxter of Balgavies (65) .....	160	Gray .....	326, 328
Cairns (2) .....	323, 329	Lorimer .....	326
Grant (1) .....	324	Thow .....	326, 329
Grierson (1) .....	323, 329	Vans Dunlop Scholarships—	
Jamieson (2) .....	324	Commercial and Political	
Maclaurin (3) .....	324	Economy and Mercantile	
Renton (4) .....	324, 329	Law .....	325, 328
Sibbald (3) .....	324, 329	History .....	326, 328
Thomson (3) .....	323, 329	Law of Nature and Nations,	
Open in 1900-1901 .....	328	Civil Law and Const. Law	
Classes, Programme of .....	305	and History .....	325, 328
Class and Honours Lists .....	462	Scots Law and Conveyanc-	
Courses .....	306	ing .....	325
Civil Law .....	306	Scholarships, Prizes, and Bur-	
Comm. and Political Econ.		saries Open in 1900-1901 .....	328
and Mercantile Law .....	310	Lecturers, University .....	xxxi, 4
Constitutional Law and		"    Absence of .....	31
History .....	309		

	PAGE		PAGE
Lecturers, Extra - Academical,		Library, Theological .....	50
recognised .....	384	(Classical) Sellar and Goodhart	51
,, Regs. for recognition of.....	33	History .....	52
Lectureships, University .....	4	Music .....	52
Applied Mathematics .....	5	Philosophical Honours, &c. ....	51
Agricultural Chemistry .....	5	Physiological .....	52
Agricultural Entomology .....	5		
Chemical Theory .....	5	“M'Ewan University Hall” .....	39
Diseases of Children.....	5	Masson Hall.....	875
Diseases of the Eye.....	5	Matriculation .....	27
Diseases of the Larynx, Ear,		Sponsio Academica .....	28
and Nose.....	5	Fees .....	27
Diseases of the Skin .....	5	Medical Council, Representative	
Diseases of Tropical Climates..	5	in .....	16
Embryology .....	5	Medical Society, Royal.....	867
Experimental Pharmacology...	5	Medical Students' Christian As-	
Experimental Physiology .....	5	sociation .....	873
Forestry.....	5	Medicine, Faculty of.....	331
French Language, &c. ....	5	Bursaries and conditions of	
Geomet. and Mechan. Drawing	5	tenure <sup>1</sup> —	
German Language, &c.....	5	Abercromby (1) .....	414
Gifford .....	5	Allan (14).....	414
Greek .....	5	Anderson (8).....	414
Gunning.....	5	Baxter of Balgavies.....	160, 195
International Private Law.....	5	Carlyle, J. A. (7).....	414
Latin .....	4	Crichton (10) .....	414
Logic, &c.....	5	Grant (11).....	414
Mathematics .....	5	Grierson (4) .....	414
Moral Philosophy.....	5	Heriot (9).....	414
Mental Diseases.....	5	Jamieson (12).....	414
Mineralogy and Crystallo-		M'Cosh (16, 17) .....	414
graphy .....	5	Mackenzie (6) .....	414
Natural Philosophy.....	5	Mackie (3) .....	414
Pathological Bacteriology .....	5	Maclaurin (15).....	414
Petrology.....	5	Renton (13).....	414
Physiology (Advanced).....	5	Sibbald (2) .....	414
Physiological Chemistry .....	5	Thomson (5).....	414
Plant Physiology.....	5	Open in 1900-1901.....	423
Procedure and Evidence.....	5	Payable by Factor .....	425
Regional Anatomy .....	5	Classes .....	331
Rhet. and English Lit.....	4	Class Exams., Regulations for.....	375
Swiney .....	276	,, Attendance.....	375
Librarian, University.....	9	Class Prize Lists .....	464
Librarians, Assistant .....	9	Courses in .....	338
Library, University.....	41	Anatomy.....	342
Regulations.....	43	,, Practical.....	342, 343
Use of.....	45	,, Regional.....	343
Reading-Rooms .....	49	Botany.....	338
Donations and Bequests.....	842	,, Practical .....	338

<sup>1</sup> The figures in parentheses refer to the numbers of the Foundations.

	PAGE		PAGE
Medicine, Faculty of—		Medicine, Faculty of—	
Courses in—		Fellowships—	
Chemistry .....	340	Syme. ....	405, 422
"    Practical .....	341	Open in 1900-1901 .....	422
Clinical Medicine .....	354	Payable by Factor .....	425
"    Tutorial .....	354	Prelim. Exam. in .....	357, 438
Clinical Surgery .....	353	Papers for .....	574
"    "    Tutorial .....	353	Exams. exempting from .....	440
Comparative Embryology ..	340	Time-Table and dates of	
Disease in Children .....	355	Entry .....	371
Diseases of the Eye .....	351	Professional Education (New	
Diseases of Larynx, Ear, and		Regulations) .....	358
Nose .....	351	Professional Education (Old	
"    Tropical Climates ..	356,	Regulations) .....	388
	391	Prof. Exams., Regulations for	
"    Skin .....	355	M.B. ....	365
Forensic Medicine .....	347	Honours in .....	378
Materia Medica .....	345	Time-Table and Dates of	
"    Practical .....	345	entering .....	380
"    Research Labor. ....	346	Exam. for M.D. ....	366
Medicine .....	348	"    M.D. (Old) .....	390
Mental Diseases .....	349	"    Ch.M. ....	368
Midwifery .....	352	Regulations for Research,	
Pathology .....	346	&c. ....	392
"    Practical .....	347	Papers for Prof. Exams. ....	812
Pathological Bacteriology ..	356	Graduation in .....	357
Pharmacology Experimental ..	346	Graduation of Women .....	369
Physics .....	341	Graduates in, with Hon. ....	398, 400
Physiology .....	343	Graduates in, in 1899-1900 ..	401,
"    Practical .....	344		402
"    "    (Advanced) ..	345	M.D. Gold Medallists .....	392
Physiological Research .....	345	M.D., 1899-1900 .....	393
Public Health .....	348	D.Sc., Regulations for .....	392
Surgery .....	350	Prizes—	
Vertebrate Morphology .....	340	Anderson-Henry .....	421
Zoology .....	339	Beaney .....	419
"    Practical .....	339	Cameron .....	419
Zoological Research .....	340	Dickson Travelling Fund .....	407
Curriculum, Minimum for De-		Dobbie-Smith .....	420
grees in .....	373	Ellis .....	419
Extra Academical Teachers		Gold Medals for M.D. Theses	
recognised .....	384	419	
Fees for Exams. ....	379, 391	Gray .....	176
Fellowships—		Gunning .....	420
Allan .....	407, 422	Milner Fothergill .....	421
Dickson Travelling Fund		Moray Bequest for Research ..	407
276, 407, 422		Neil Arnott .....	418
Freeland-Barbour .....	406	Pattison .....	421
Goodsir .....	406, 422	Rector's .....	191
Leckie-Mactier .....	406, 422	Wightman .....	419
Moray Bequest for Research		Wilson .....	418
276, 407, 422		Open in 1900-1901 .....	424

	PAGE		PAGE
Medicine, Faculty of—		Music, Faculty of.....	4, 24, 426
Scholarships—		Programme of Classes and	
Buchanan .....	412, 422	Fees .....	426
Coldstream Memorial .....	409, 423	Prize Lists .....	487
Crichton .....	413, 423	Graduation in .....	427
Ettles .....	407, 422	Honorary Mus.D. ....	429
Hope Prize .....	412, 422	Graduates, 1899 .....	431
Houldsworth .....	413, 423	Exam. Papers for Degrees.....	827
Mackay Smith .....	413	Prelim. Exam. ....	427, 430
Mouat .....	412, 422	Dates of entering for Exams.	
Murchison .....	411, 422	and payment of Fees.....	431
Scott .....	412, 422	Scholarship in .....	431
Sibbald .....	408, 423	Musical Society, University.....	871
Stark .....	411		
Thomson .....	408	New Foundation.....	828
Vans Dunlop—	409		
Anatomy and Physiology	410	Officials of University.....	1.
Botany and Zoology .....	410	Organist, University .....	9
Chemistry, Anatomy, and			
Physics .....	409	Parliamentary Representative 1, 12	
Materia Medica .....	410	Patrons of Chairs.....	2, 14, 15
Pathology and Medical		Penalties for Breach of Disci-	
Jurisprudence and Pub.		pline .....	30
Health .....	411	Philomathic Society .....	869
Physiology and Surgery.....	410	Philosophical Hons. Library.....	51
Preliminary Subjects 409, 422		Photographic Society .....	871
Open in 1900-1901.....	422	Portraits and Busts of Professors	
Payable by Factor.....	425	and Benefactors .....	53
Research, Regulations for.....	392	Precedence of Faculties.....	30
Sponsio .....	379	Preliminary Examination...105, 230,	
Medical Students, Registrn. of.....	373	357, 433	
Missionary Association .....	871	Examinations exempting from	
Moray Endowment for Research		436, 440	
187, 407		Principal .....	1, 16
Muir Hall.....	876	Prize Lists, 1899-1900—	
Museums.....	55	Arts.....	443
Anatomical.....	55	Divinity .....	461
Botanic .....	55, 57	Law .....	462
Chemistry.....	56	Medicine .....	464
Fine Art .....	55	Music.....	493
Geological.....	55	Science .....	457
Materia Medica.....	57	Prizes. See under Faculties.	
Music.....	55	Professors, Addresses of.....	xxix
Natural History .....	56	Absence of, Regulations for....	31
Natural Philosophy.....	55		
Obstetrical.....	56	Reading Rooms, Old Buildings... 49	
Physiological.....	55	New Buildings 50	
Practice of Physic.....	55	Rector of University.....	1, 11
Surgery .....	57	Rectorial Election, Statistics of...866	
Keepers of.....	9	Registrar Univ. Gen. Council ....	9
		Registrn. of Members of Council..	25

	PAGE		PAGE
Reid School of Music.....	40	Courses in Pure Science—	
Representative in Parliament...1, 12		Physiology (Adv. Practical).....	212
Research, Regs. for Special Study		Plant Physiology .....	210
and .....	115	Zoology .....	209
Residence and Board—		Courses in Applied Science .....	215
For Men Students .....	875	Agriculture, &c. ....	224
For Women Students.....	875	Agricultural Chemistry .....	226
Rifle Shooting Club.....	871	Agricultural Entomology.....	227
Riotous Conduct, Penalties for... 30		Drawing and Mensuration.....	215
Royal Medical Society.....	867	Dynamics.....	219
Royal Botanic Garden, &c.....	57	Economics bearing on Agri-	
		culture.....	229
Scholarships. See under the		Engineering .....	216
various Faculties.		Courses in Engineering Field	
Schoolmaster's Diploma, Regu-		Work.....	218
lations for .....	145	Sanitary, &c. ....	218
Papers for .....	623	Experimental Physics.....	230
Science, Faculty of—		Forestry.....	229
Bursaries and Conditions of		Physics .....	222
Tenure—		Public Health .....	222
Buchanan .....	277	Laboratory Work.....	219
Baxter of Balgavies.....	174	Veterinary Hygiene.....	227
Fraser.....	277	Fellowships—	
Grant .....	158	Falconer .....	269, 276
Heriot .....	277	Heriot .....	270, 276
Jamieson.....	158	Open in 1900-1901 .....	276
Renton.....	159, 197	Prizes—	
Sibbald .....	159, 196	Dickson Travelling Fund 276, 277	
Town Council.....	194	Dobbie-Smith .....	420
Vacant in 1900-1901.....	277	Ellis .....	419
Class, Prize, and Honours		Gray .....	278
Lists .....	457	Gunning Victoria.....	420
Classes, Programme of.....	202	Kelland.....	278
Courses in Pure Science—		Moray Bequest for Research	
Astronomy .....	212	.....	276, 277
Botany .....	210	Newton .....	278
Chemistry .....	211	Rector's .....	278
Dynamics .....	211	Open in 1900-1901.....	278
Embryology .....	209	Scholarships—	
Geology, including Miner-		Arnott.....	273, 277
alogy .....	213	Baxter (Sir D.)—	
Human Anatomy, including		Natural Science .....	270
Anthropology.....	212	Physical Science.....	270
Mathematics .....	209	Baxter of Balgavies.....	275
Mineralogy, &c. (Advanced) 211		Gray .....	275
Morphology of Vertebrata.....	210	Hope Prize .....	273, 277
Natural Philosophy.....	210	Mackay Smith—	
Petrology .....	215	Chemistry .....	273
Physics (Advanced Experi-		Natural Philosophy.....	273
mental) .....	211	Physical Science (Exhibition	
Physiology.....	212	of 1851) .....	274, 276

	PAGE		PAGE
Science, Faculty of—		Science, Faculty of—	
Scholarships—		Examination Papers—	
Steven .....	272, 277	Preliminary .....	497
Geology, Swiney Lecture-		Pure Science .....	753
ship in .....	276	Engineering .....	768
Trevelyan .....	274	Public Health .....	777
Vans Dunlop Genl. Regs.....	270	Agriculture .....	782
Agriculture .....	271, 277	D.Sc., List of. ....	267
Chemistry .....	271	Degrees conferred, 1899-1900.....	268
Engineering.....	272	Scots Law Society.....	869
Mathematics .....	271, 276	Senatus Academicus.....	xxix, 2, 17
Vans Dunlop Scholarships—		Scottish Inter-University Rifle	
Natural History, includ-		Match Competition .....	872
ing Geol. and Bot.....	272, 276	Shinty Club.....	872
Natural Philosophy.....	271, 276	Societies, University, and Clubs	
Open 1899-1900.....	276	„ Associated.....	868
Graduation in Pure Science.....	232	„ „.....	868
Preliminary Examination.....	230	Sponsio Academica on Matricu-	
Curriculum in .....	230	lation .....	28
Examinations for B.Sc.....	234	for Graduates in Arts.....	152
Courses for Final Exam.....	236	for Graduates in Med.....	379
Special Study and Research,		Students, Matriculated, Number	
Regulations for.....	238	of.....	29
Research Fellows.....	238	Representative Council.....	26
D.Sc., Regulations for.....	236	Residences and Board—	
Graduation of Women .....	238	1. For Men Students—	
Outline of Examinations.....	239	University Hall, &c.....	875
Fees.....	263	2. For Women Students.....	875
Time-Table and dates of		(1) Masson Hall.....	875
Entering for Exams.....	265	(2) Muir Hall .....	876
Engineering, Regs. for B.Sc.—		Swiney Lectureship in Geology	
Preliminary Examination.....	244	.....	276
Courses of Instruction.....	245	Teachers, Recognition of Extra	
Examinations.....	246	Academical.....	33
D.Sc., Regulations for .....	248	„ Recognised Extra Academical	
Outline of Examinations.....	248	.....	384
Fees.....	263	Theological Library.....	50
Dates of Examinations.....	265	Theological Society.....	872
Public Health, Regs. for B.Sc.—		Torrie Fine Art Collection.....	54
Curriculum .....	250	Total Abstinence Society.....	872
Laboratory Work .....	252	University Assistants .....	6
Regulations for D.Sc.....	254	„ Battery .....	873
Fees.....	263	„ Buildings.....	34
Dates of Examinations.....	264	„ Chancellor .....	1, 10
Agriculture, B.Sc.—		„ Christian Union.....	873
Preliminary Examination.....	255	„ Committee of Privy Council..	15
Courses of Instruction.....	256	„ Constitution.....	10
Examinations .....	257	„ Court.....	1, 12, 31
Outline of Examinations .....	259	„ Curators.....	2, 15
Fees for Examinations.....	263		
Dates of Examinations.....	265		



	PAGE		PAGE
University Endowment Associa-		University Rector.....	1, 11
tion.....	867	, Representative in Gen. Med.	
„ Principal.....	1, 16	Council.....	16
„ Requirements of.....	830	„ Rifle Volunteer Company	
„ Examiners for Degrees, &c. 7, 30		(Q.R.V.B., R.S.).....	873
„ Library.....	40	„ Union.....	866
„ Lecturers.....	4	U.P. Students' Society.....	874
„ „ Addresses of.....	xxxi		
„ „ „ M'Ewan Hall.....	39	Vice-Chancellor.....	1, 11
„ Organist.....	9	Volunteer Missionary Union.....	874
„ Professors.....	2, 18		
„ „ Addresses of.....	xxix	Warders.....	9
„ „ Addresses of Emeriti		Women's Christian Union.....	874
and Resigned.....	xxx	Women's Debating Society.....	875
„ Hall.....	875	Women Students, Residences for	875



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